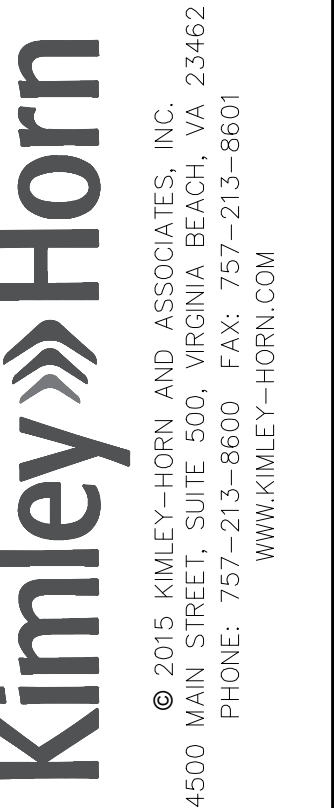




1	TITLE SHEET
2	GENERAL NOTES
3-31	BIKE LOOP LAYOUT
32-35	DETAILS

**THE CONTRACTOR SHALL CONTACT THE CITY OF NORFOLK, BUREAU OF ENVIRONMENTAL SERVICES AT 664-4368 AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY SO THAT A PRECONSTRUCTION CONFERENCE CAN BE SCHEDULED.**

THE PURPOSE OF THIS PROJECT IS TO IMPLEMENT PAVEMENT MARKING AND BICYCLE SIGNING PLANS. THE PAVEMENT MARKING PLANS INCLUDE THE INSTALLATION OF BIKE LANE AND SHARED LANE SYMBOLS AND ASSOCIATED BIKE LANE SIGNS. THE PROJECT INCLUDES THE ERADICATION OF EXITING PAVEMENT MARKINGS, SHIFTS IN STREET CENTERLINES, AND REALLOCATION OF CROSS-SECTION WIDTH BETWEEN TRAVEL LANES, SHARED TRAVEL LANES, BIKE LANES, AND ON-STREET PARKING LANES AS IDENTIFIED IN THE PLANS.



11605/099	DATE
02/24/16	
SCALE	AS SHOWN
DESIGNED BY	MMC
DRAWN BY	MMC
CHECKED BY	KDW

# FILE SHEET

**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK**

SHEET NUMBER  
1







Plotted By: Glevnik, Megan    Sheet Set: Kilo    Layout: 3 BIKE LOOP LAYOUT    February 24, 2016    08:19:37am    K:\VAB\_TPT\0116057099-norfolk bike pilot loop\CADD\plan sheets\3 BIKE LOOP LAYOUT.dwg  
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MATCH LINE A

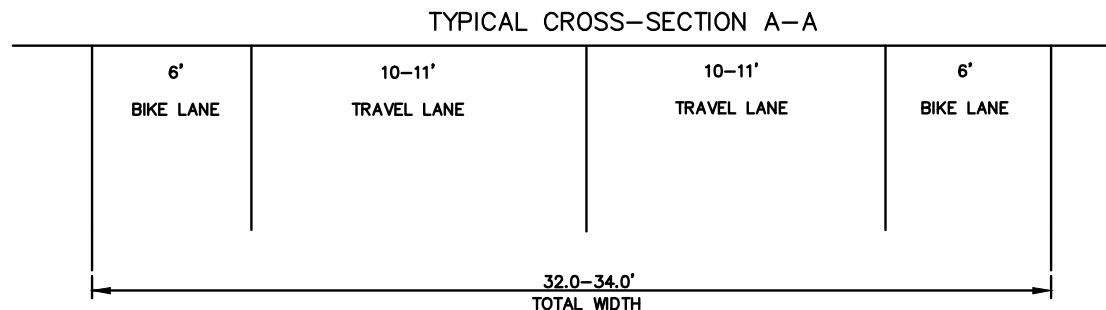
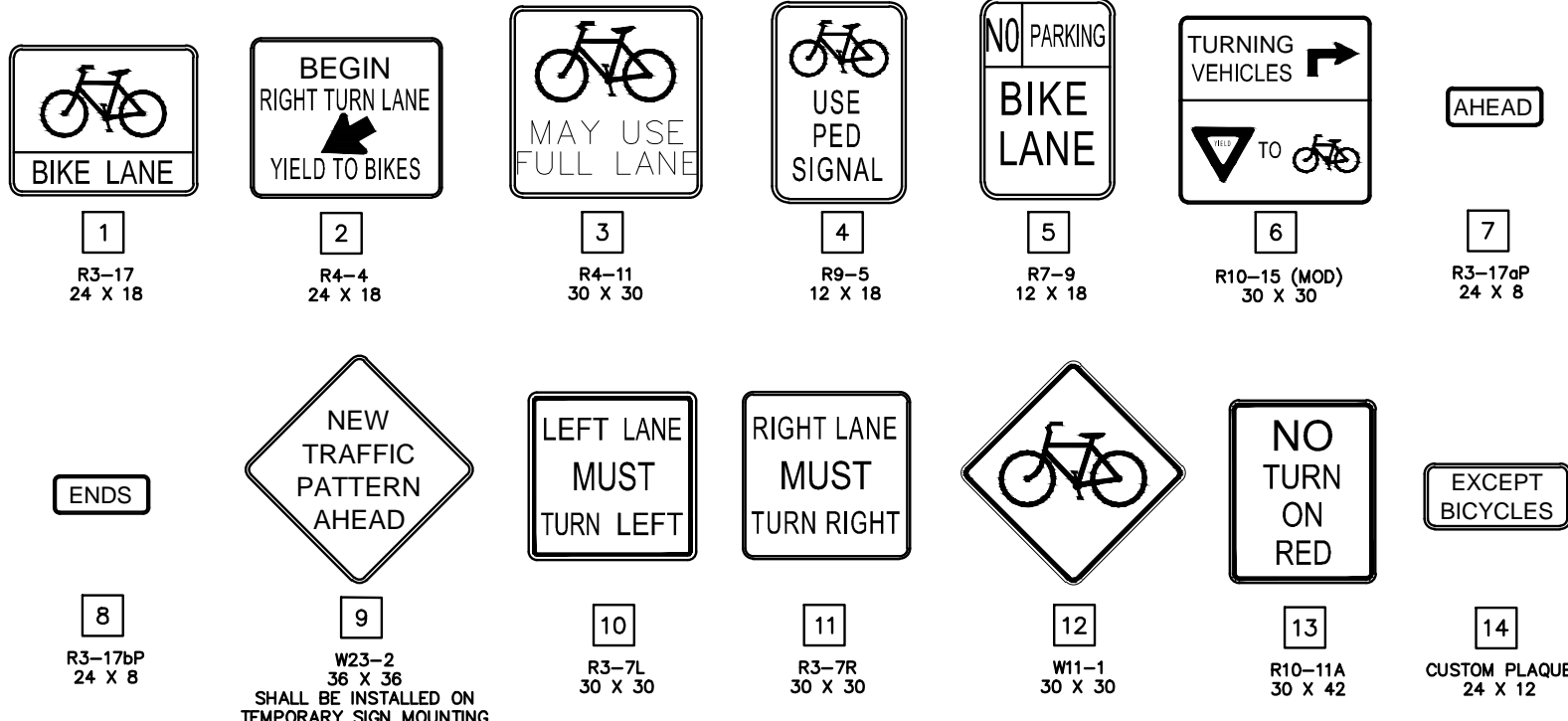


PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 8" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(X) WHITE, YIELD LINE  
(Y) YELLOW, 6" WIDTH  
(ZA) WHITE, 12" WIDTH  
(ZB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
(ZC) WHITE, WORD MESSAGE "ONLY"  
(ZD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"  
(FF) WHITE, WORD MESSAGE "STOP AHEAD"  
(GG) WHITE, WORD MESSAGE (OTHER)  
(HH) WHITE, WORD MESSAGE "YIELD"  
(II) WHITE, HOV SYMBOL  
(JJ) WHITE, SPEED HUMP MARKINGS  
(KK) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL  
(NN) WHITE, BICYCLE SHARROW SYMBOL  
(OO) WHITE, RAILROAD CROSSING SYMBOL  
(PP) WHITE FLEX POST, 20' SPACE  
(Q) STANDARD INTERSECTION TREATMENT  
(R) ADVANCED INTERSECTION TREATMENT  
(S) POST MOUNTED SIGN



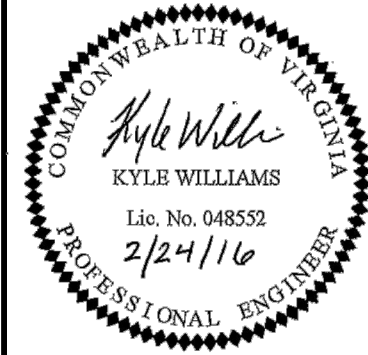
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK

VIRGINIA

BICYCLE LOOP LAYOUT

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



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PHONE: 757-213-8600 FAX: 757-213-8601  
WWW.KIMLEY-HORN.COM

REVISIONS

No.	DATE	BY



Plotted By: Glenn K. Meagan Sheet Set: K104 Bicycle Loop Layout February 24, 2016 08:20:15am K:\VAB-TPT\116057099-norfolk bike pilot loop\CADD\plan sheets\4 Bike Loop Layout.dwg  
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MATCH LINE B

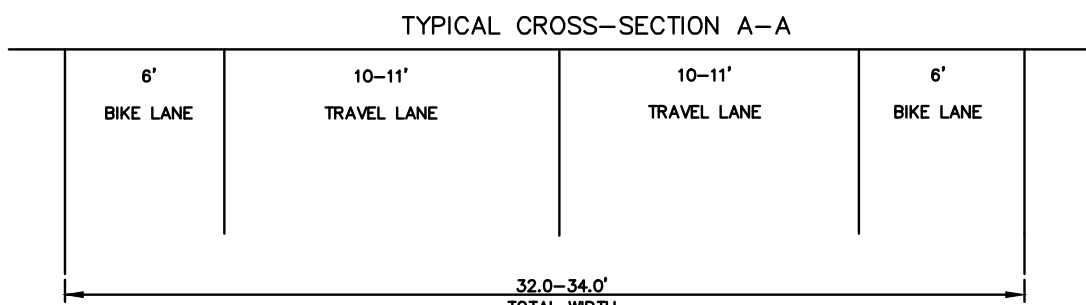
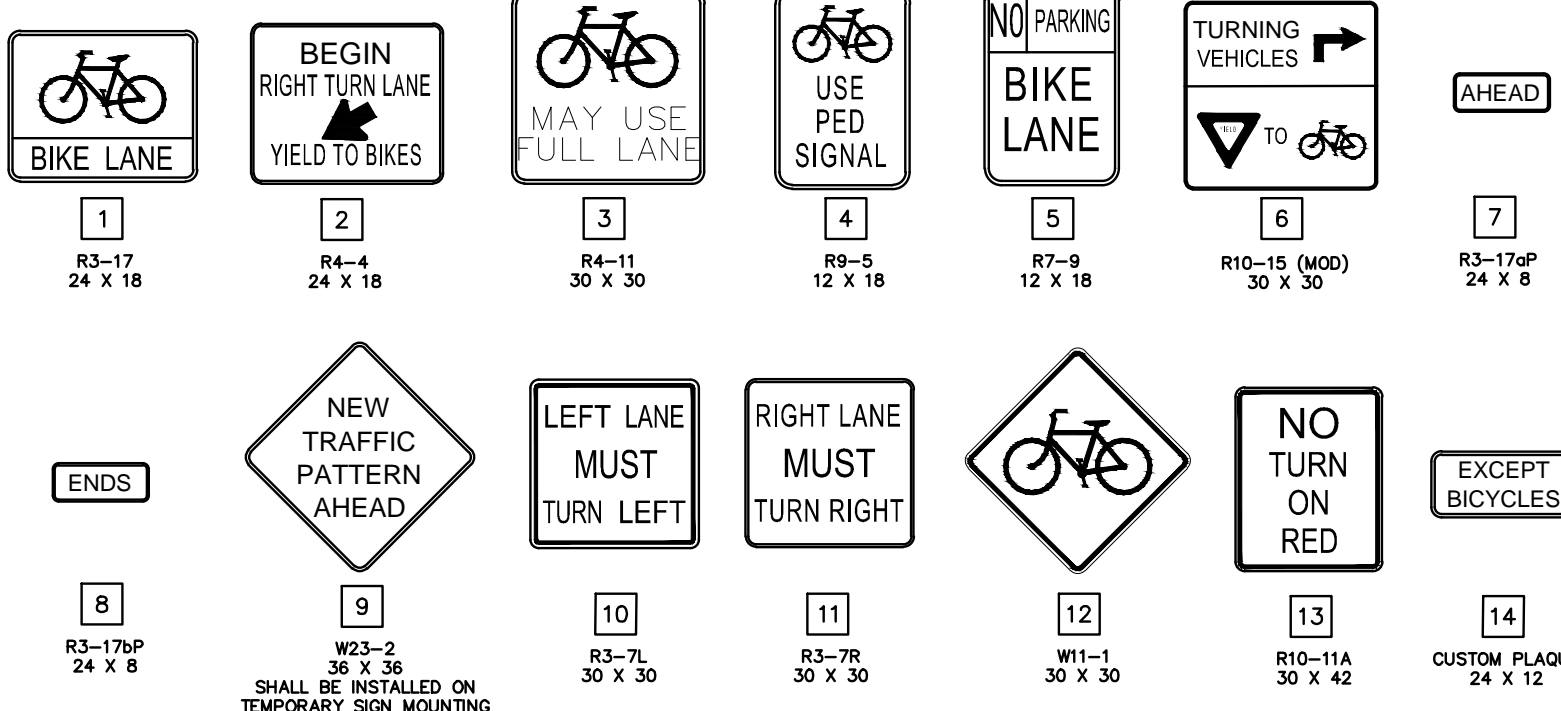


MATCH LINE A

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 8" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING  
(O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(Y) WHITE, YIELD LINE  
(Z) YELLOW, 6" WIDTH  
(AA) WHITE, 12" WIDTH  
(BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
(CC) WHITE, WORD MESSAGE "ONLY"  
(DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"  
(FF) WHITE, WORD MESSAGE "STOP AHEAD"  
(GG) WHITE, WORD MESSAGE (OTHER)  
(HH) WHITE, WORD MESSAGE "YIELD"  
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(LL) WHITE, BICYCLE LANE SYMBOL AND ARROW  
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(NN) WHITE, BICYCLE SHARROW SYMBOL  
(RR) WHITE, RAILROAD CROSSING SYMBOL  
• WHITE FLEX POST, 20" SPACE  
(1) STANDARD INTERSECTION TREATMENT  
(2) ADVANCED INTERSECTION TREATMENT  
• POST MOUNTED SIGN



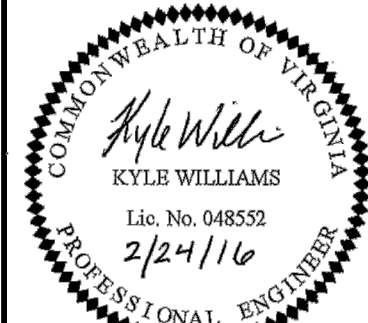
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK

VIRGINIA

BICYCLE LOOP LAYOUT

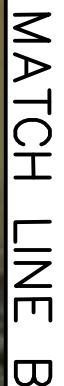
KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



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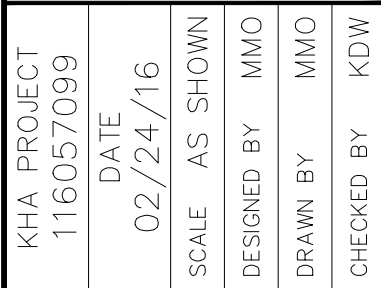
NO.	REVISIONS	DATE	BY






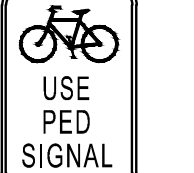

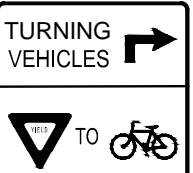










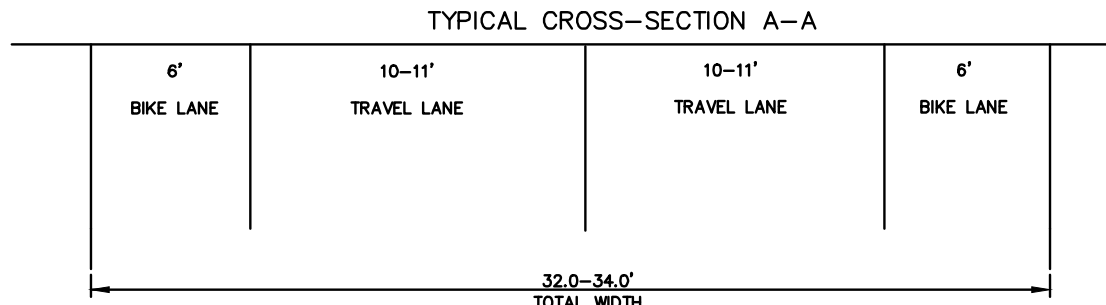
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SHEET NUMBER <span style="font-size: 2em; font-weight: bold;">5</span>	BICYCLE ROUTE PILOT LOOP DESIGN PLANS PREPARED FOR CITY OF NORFOLK NORFOLK VIRGINIA
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- |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  <p>1</p> <p>R3-17<br/>24 X 18</p>  |  <p>2</p> <p>R4-4<br/>24 X 18</p>   |  <p>3</p> <p>R4-11<br/>30 X 30</p>  |  <p>4</p> <p>R9-5<br/>12 X 18</p>   |  <p>5</p> <p>R7-9<br/>12 X 18</p>   |  <p>6</p> <p>R10-15 (MOD)<br/>30 X 30</p> |  <p>7</p> <p>R3-17aP<br/>24 X 8</p>         |
|  <p>8</p> <p>R3-17bP<br/>24 X 8</p> |  <p>9</p> <p>W20-2<br/>36 X 36</p> <p>SHALL BE INSTALLED ON<br/>TEMPERARY SIGN MOUNTING</p> |  <p>10</p> <p>R3-7L<br/>30 X 30</p> |  <p>11</p> <p>R3-7R<br/>30 X 30</p> |  <p>12</p> <p>W11-1<br/>30 X 30</p> |  <p>13</p> <p>R10-11A<br/>30 X 42</p>     |  <p>14</p> <p>CUSTOM PLAQUE<br/>24 X 12</p> |




















MATCH LINE D








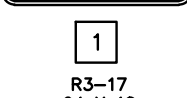
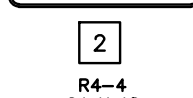
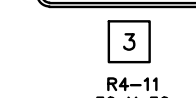
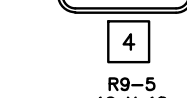
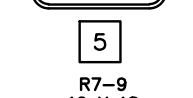
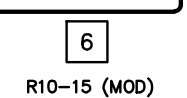
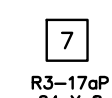













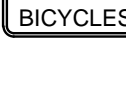


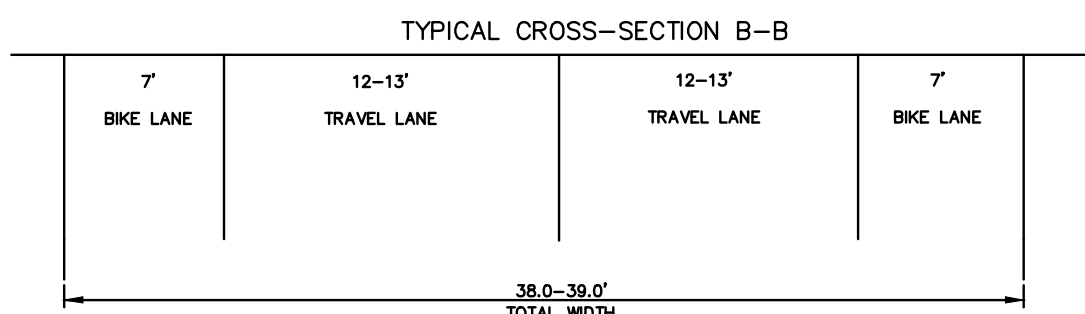
### PAVEMENT MARKING LEGEND:

(A)	WHITE, 4" WIDTH
(B)	WHITE, 4" WIDTH, 10' LONG, 30' SPACE
(C)	WHITE, 4" WIDTH, 2' LONG, 4' SPACE
(D)	WHITE, 24" WIDTH
(E)	WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
(F)	WHITE, 6" WIDTH
(G)	WHITE, 8" WIDTH
(H)	YELLOW, 4" WIDTH
(I)	YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
(J)	YELLOW, 24" WIDTH @ 45 DEGREES
(K)	YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
(L)	WHITE, ELONGATED ARROW (S)
(M)	YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
(N)	YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10' LONG, 30' SPACE @ 4" SPACING

(O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
 (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
 (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
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 (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
 (CC) WHITE, WORD MESSAGE "ONLY"  
 (DD) WHITE, WORD MESSAGE "SLOW"

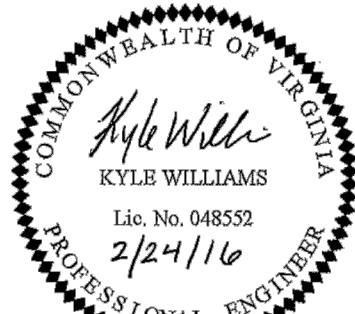
	WHITE, WORD MESSAGE "SCHOOL"
	WHITE, WORD MESSAGE "STOP AHEAD"
	WHITE, WORD MESSAGE (OTHER)
	WHITE, WORD MESSAGE "YIELD"
	WHITE, HOV SYMBOL
	WHITE, SPEED HUMP MARKINGS
	WHITE, BICYCLE LANE SYMBOL AND ARROW
	WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
	WHITE, PRIORITY BICYCLE SHARROW SYMBOL
	WHITE, BICYCLE SHARROW SYMBOL
	WHITE, RAILROAD CROSSING SYMBOL
	WHITE FLEX POST, 20' SPACE
	STANDARD INTERSECTION TREATMENT
	ADVANCED INTERSECTION TREATMENT
	POST MOUNTED SIGN

 <p>BIKE LANE</p>	 <p>BEGIN RIGHT TURN LANE YIELD TO BIKES</p>	 <p>MAY USE FULL LANE</p>	 <p>USE PED SIGNAL</p>	 <p>NO PARKING BIKE LANE</p>	 <p>TURNING VEHICLES</p>	 <p>AHEAD</p>
 <p>R3-17 24 X 18</p>	 <p>R4-4 24 X 18</p>	 <p>R6-11 30 X 30</p>	 <p>R9-5 30 X 18</p>	 <p>R7-9 12 X 18</p>	 <p>R10-15 (MCO) 30 X 30</p>	 <p>R4-7aP 24 X 9</p>
 <p>ENDS</p>	 <p>NEW TRAFFIC PATTERN AHEAD</p>	 <p>LEFT LANE MUST TURN LEFT</p>	 <p>RIGHT LANE MUST TURN RIGHT</p>		 <p>NO TURN ON RED</p>	 <p>EXCEPT BICYCLES</p>
 <p>R3-17aP 24 X 8</p>	 <p>W2-3 36 X 36</p>	 <p>R3-7L 30 X 30</p>	 <p>R3-7R 30 X 30</p>	 <p>W11-1 30 X 30</p>	 <p>R10-11a 30 X 42</p>	 <p>CUSTOM PLAQUE 24 X 12</p>



1 CONTRACTOR SHALL ONLY REMOVE RAILROAD CROSSING MARKINGS WITHIN BIKE LANE. EXISTING MARKINGS TO REMAIN IN VEHICLE LANE.

KHA PROJECT 116057099	DATE 02/24/16	SCALE AS SHOWN	DESIGNED BY MMO	DRAWN BY MMO	CHECKED BY KDW
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# Kimley»»Horn

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PHONE: 757-213-8600 FAX: 757-213-8601  
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No.	REVISIONS	DATE	BY
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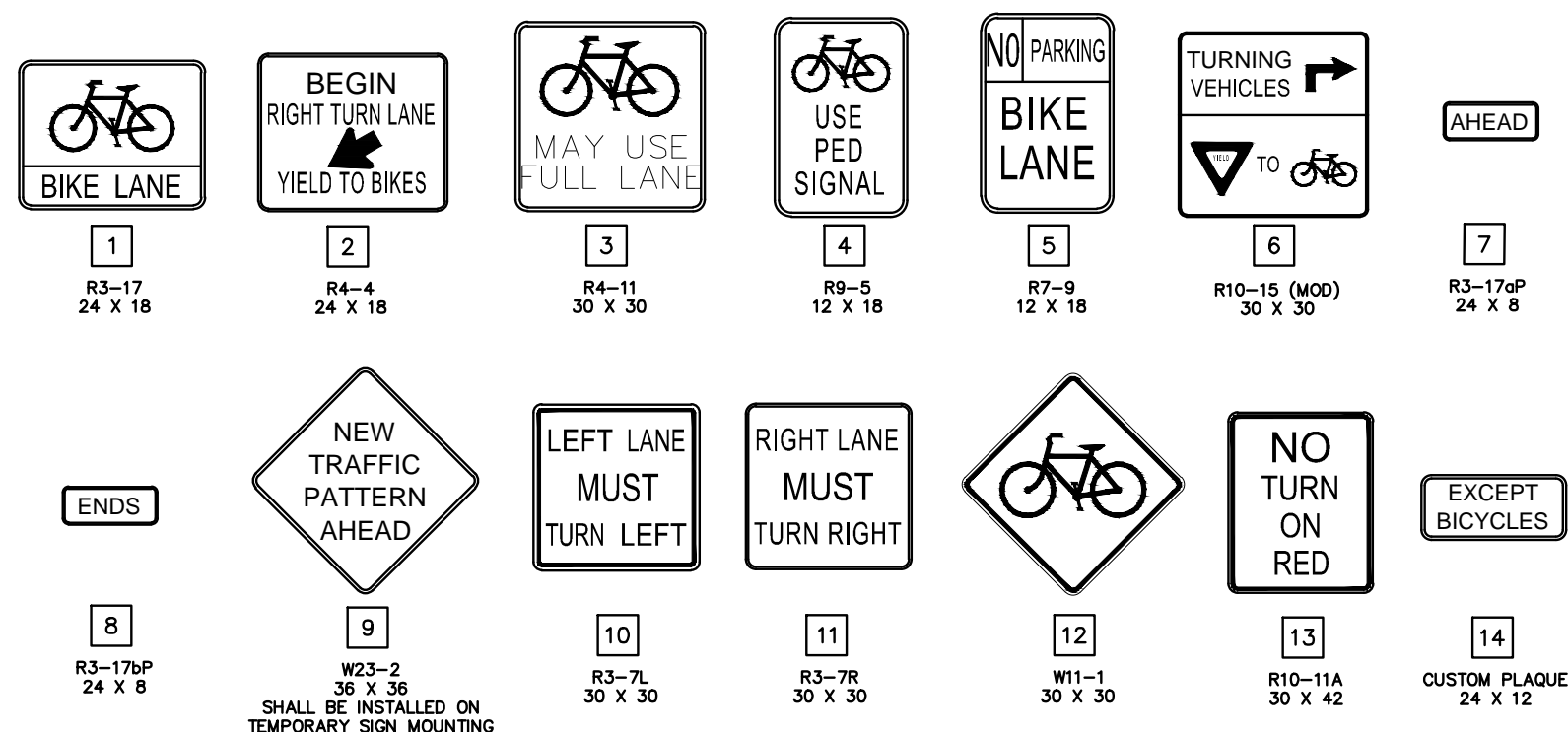


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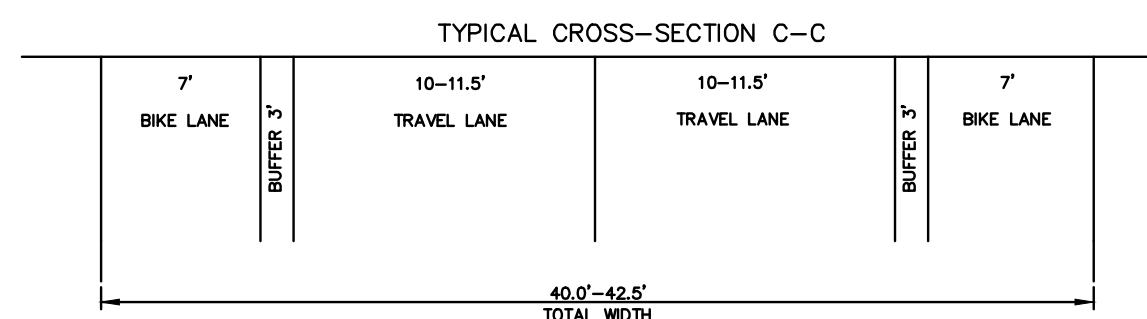
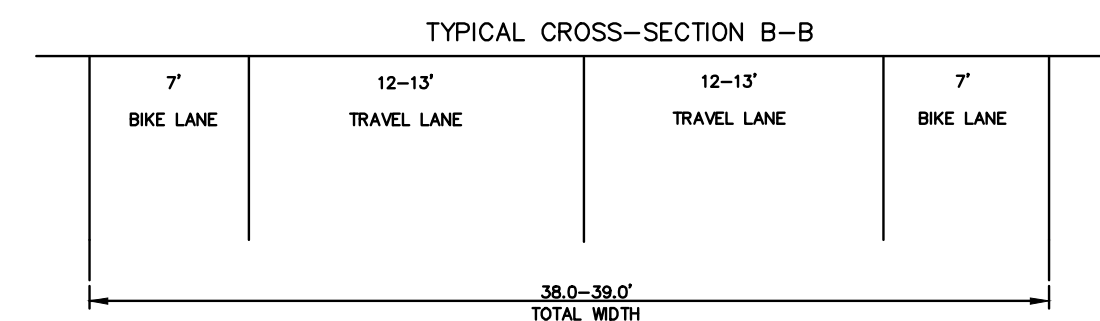
- (A) WHITE, 4" WIDTH
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- Ⓛ WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- Ⓜ WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- Ⓡ WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- Ⓢ WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- Ⓣ WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- Ⓤ WHITE, 12" WIDTH, 3' LONG, 9' SPACE
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- Ⓐ WHITE, 12" WIDTH
- Ⓑ WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- Ⓒ WHITE, WORD MESSAGE "ONLY"
- Ⓓ WHITE, WORD MESSAGE "SLOW"

- ⓔ WHITE, WORD MESSAGE "SCHOOL"
- ⓖ WHITE, WORD MESSAGE "STOP AHEAD"
- ⓗ WHITE, WORD MESSAGE (OTHER)
- ⓔ WHITE, WORD MESSAGE "YIELD"
- ⓖ WHITE, HOV SYMBOL
- ⓗ WHITE, SPEED HUMP MARKINGS
- ⓔ WHITE, BICYCLE LANE SYMBOL AND ARROW
- ⓖ WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- ⓗ WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- ⓔ WHITE, BICYCLE SHARROW SYMBOL
- ⓖ WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- ① STANDARD INTERSECTION TREATMENT
- ② ADVANCED INTERSECTION TREATMENT
- ➡ POST MOUNTED SIGN



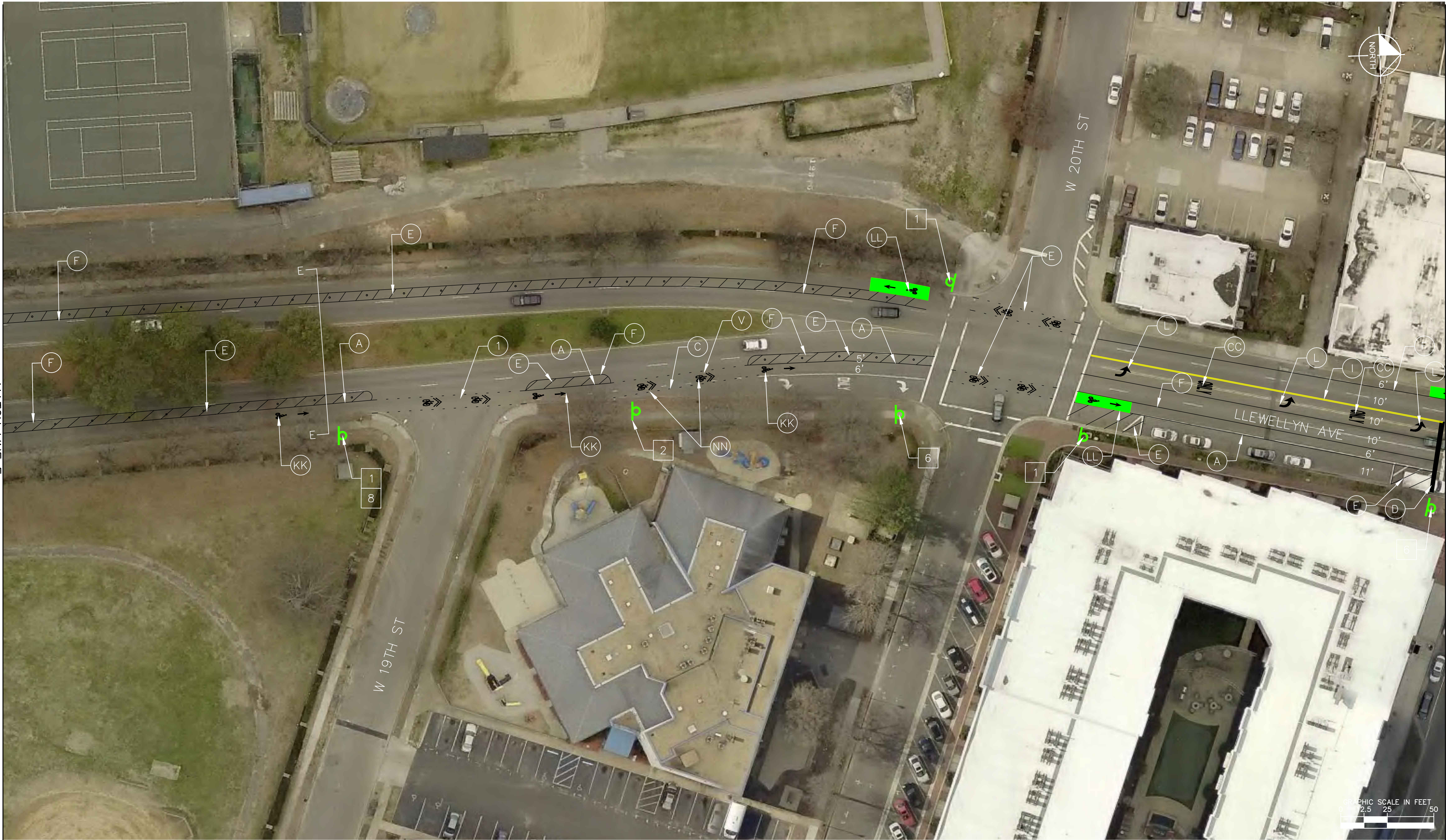
- 1 CONTRACTOR SHALL ONLY REMOVE RAILROAD CROSSING MARKINGS WITHIN BIKE LANE. EXISTING MARKINGS TO REMAIN IN VEHICLE LANE.
- 2 DO NOT ERADICATE.





Plotted By: Glevnik, Megan    Sheet Set: Kilo    Layout: 8 BIKE LOOP LAYOUT    February 24, 2016    08:22:49pm    K:\VAB\_TPTD\116057099-norfolk bike pilot loop\CADD\plan sheets\8 BIKE LOOP LAYOUT.dwg    This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCH LINE F



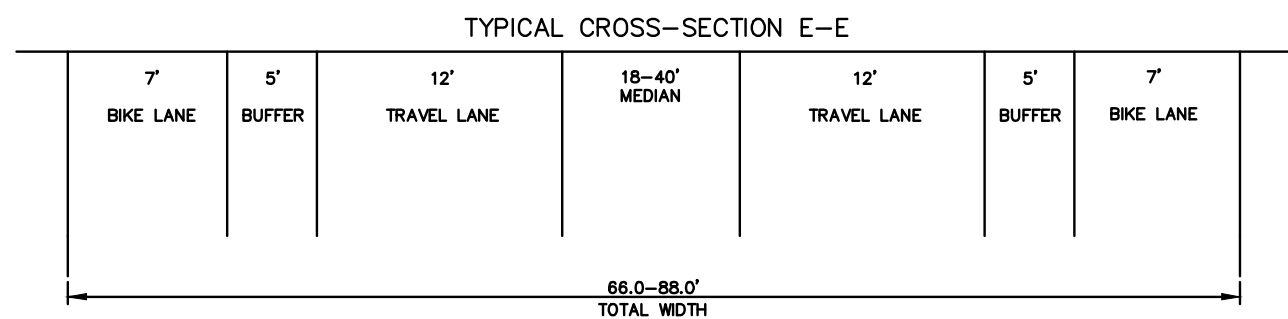
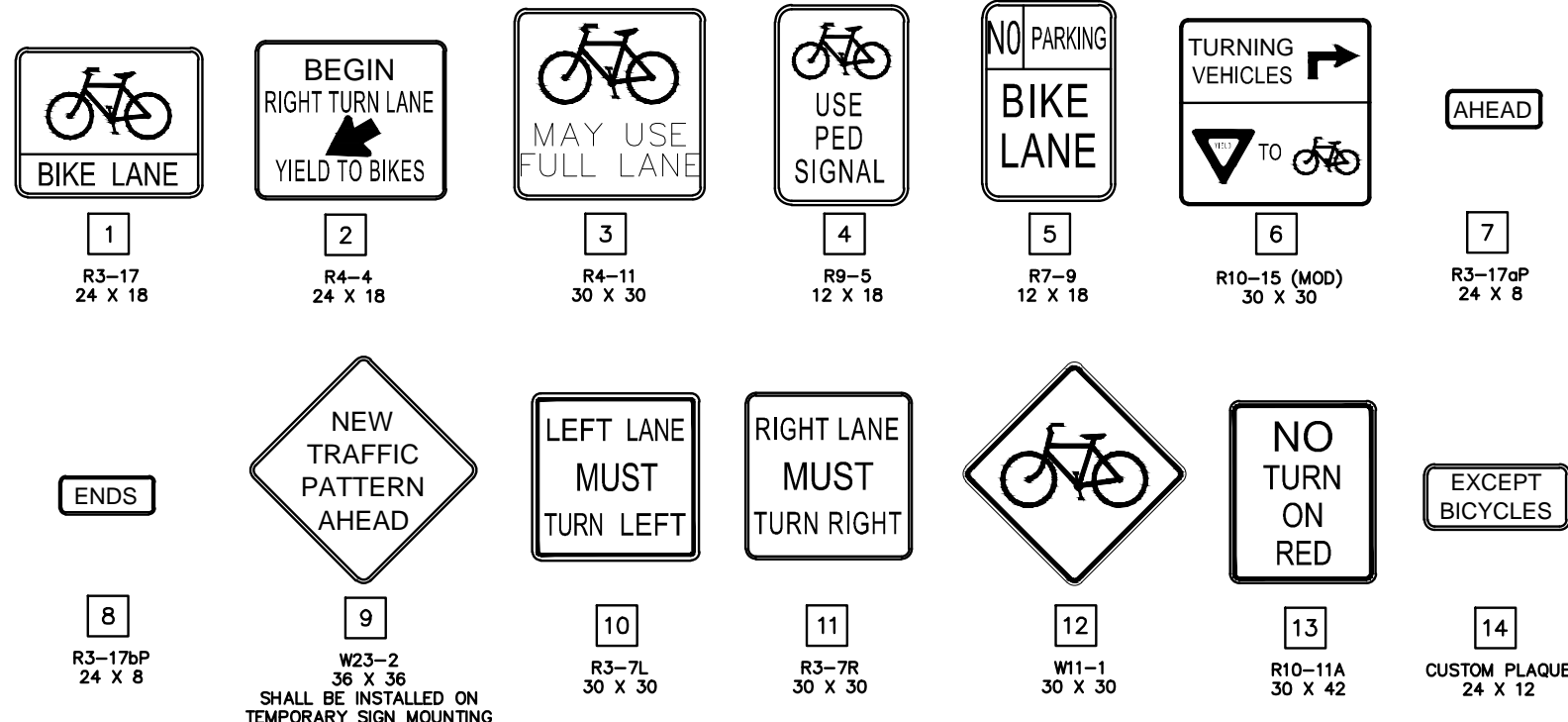
MATCH LINE E

#### PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (X) WHITE, YIELD LINE
- (Y) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE "OTHER"
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (3) POST MOUNTED SIGN

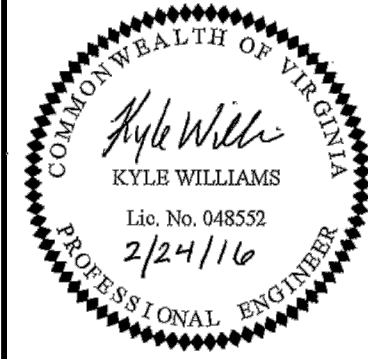


BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK

BICYCLE LOOP LAYOUT

KHA PROJECT  
116057099  
DATE  
02/24/16  
SCALE  
AS SHOWN  
DESIGNED BY  
MMO  
DRAWN BY  
MMO  
CHECKED BY  
KDW



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REVISIONS  
No. DATE BY

SHEET NUMBER  
8



Plotted By: Cleavik, Megan    Sheet Set: Knp    Layout: 9 BIKE LOOP LAYOUT    February 24, 2016    08:23:28am    K:\VAB\_TPTD\116057099-norfolk bike pilot loop CAD\plan sheets\9 BIKE LOOP LAYOUT.dwg    This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCH LINE G



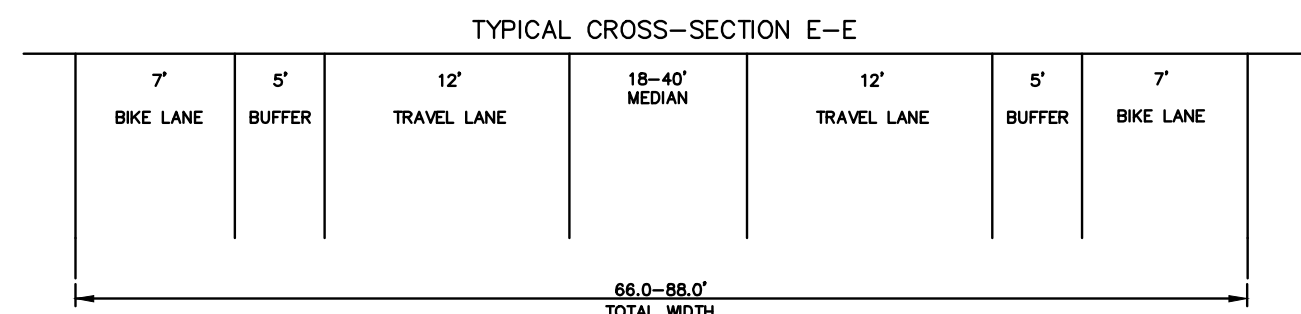
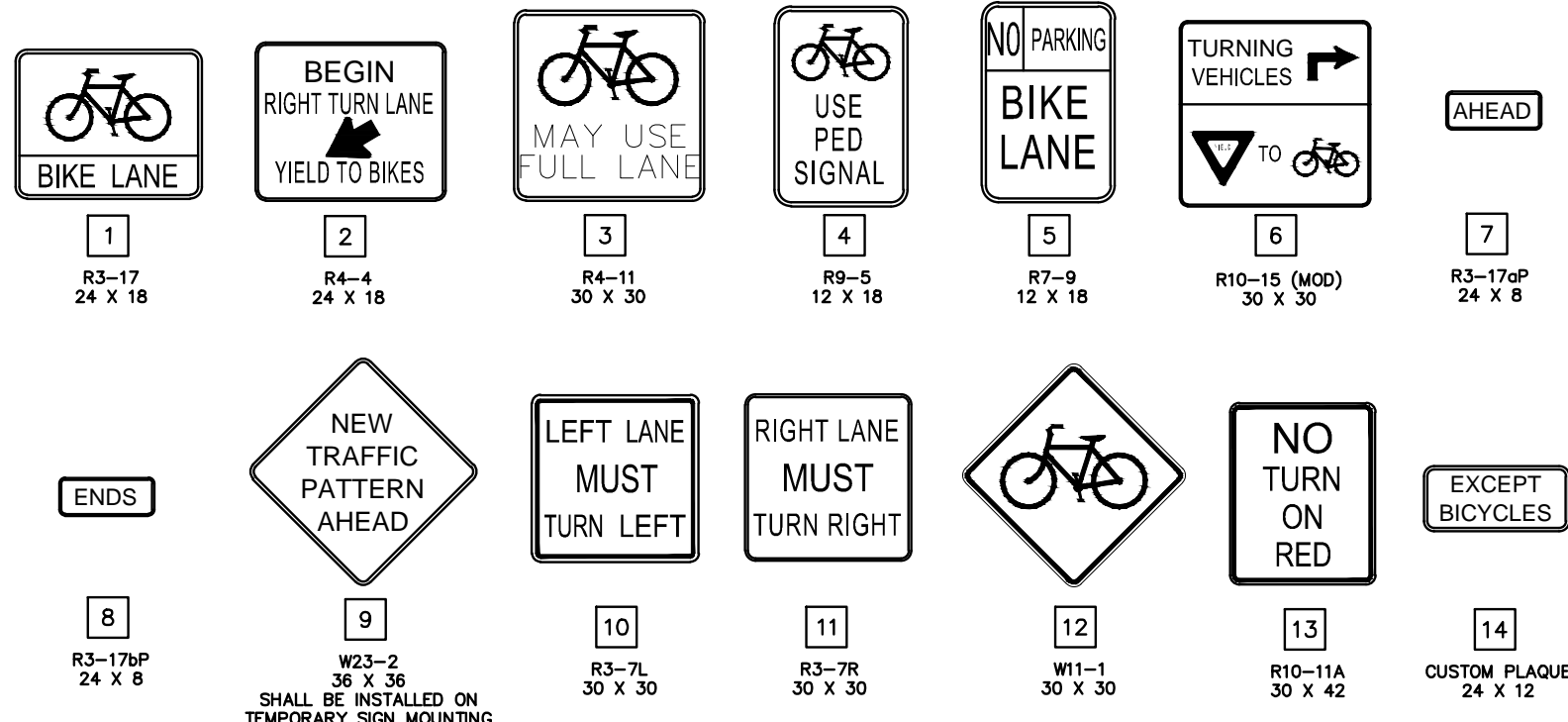
MATCH LINE F

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 8" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(X) WHITE, YIELD LINE  
(Y) YELLOW, 6" WIDTH  
(Z) WHITE, 12" WIDTH  
(AA) WHITE, 12" WIDTH  
(AB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
(AC) WHITE, WORD MESSAGE "ONLY"  
(AD) WHITE, WORD MESSAGE "SLOW"

- (AE) WHITE, WORD MESSAGE "SCHOOL"  
(AF) WHITE, WORD MESSAGE "STOP AHEAD"  
(AG) WHITE, WORD MESSAGE (OTHER)  
(AH) WHITE, WORD MESSAGE "YIELD"  
(AI) WHITE, HOV SYMBOL  
(AJ) WHITE, SPEED HUMP MARKINGS  
(AK) WHITE, BICYCLE LANE SYMBOL AND ARROW  
(AL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(AM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL  
(AN) WHITE, BICYCLE SHARROW SYMBOL  
(AO) WHITE, RAILROAD CROSSING SYMBOL  
(AP) WHITE FLEX POST, 20' SPACE  
(A) STANDARD INTERSECTION TREATMENT  
(B) ADVANCED INTERSECTION TREATMENT  
(C) POST MOUNTED SIGN



1 FLEX POSTS SHALL BE CENTERED BETWEEN LONGITUDINAL PAVEMENT MARKINGS, SPACED AT 20'. SEE DETAIL ON SHEET 30.

BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

SHEET NUMBER  
9

No.	REVISIONS	DATE	BY

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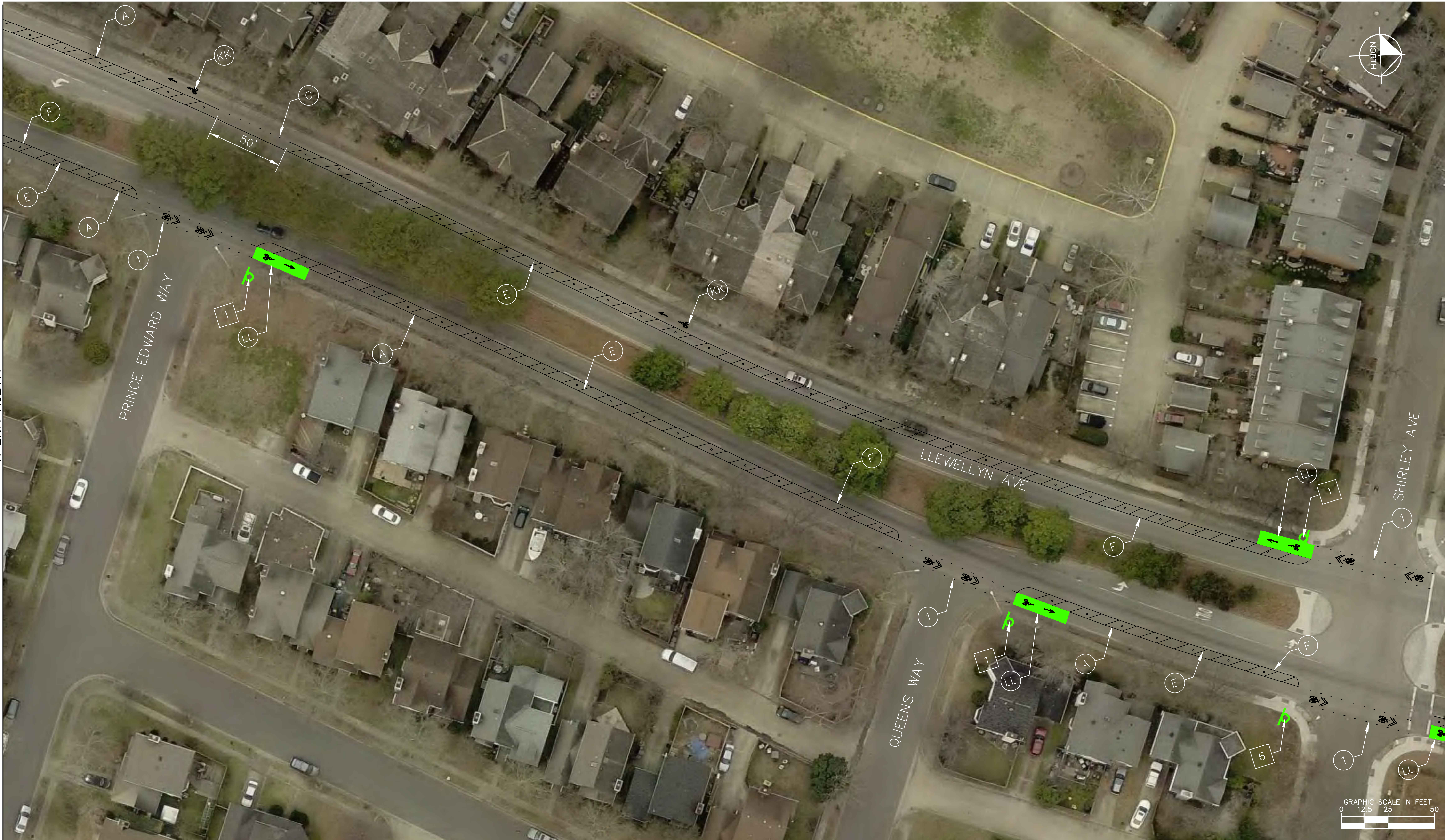
COMMONWEALTH OF VIRGINIA  
KYLE WILLIAMS  
Lic. No. 048552  
2/24/16  
PROFESSIONAL ENGINEER

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



Plotted By: Glevin, Meason    Sheet Set: Kha    Layout: 10 BIKE LOOP LAYOUT    February 24, 2016    08:24:04am    K:\VAB\TPTO\116057099-norfolk bike pilot loop\CADD\plan sheets\10 BIKE LOOP LAYOUT.dwg  
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MATCH LINE H



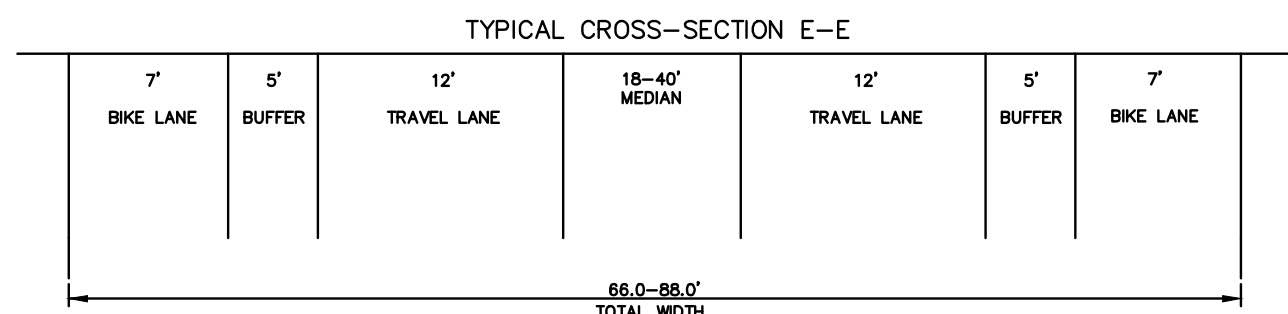
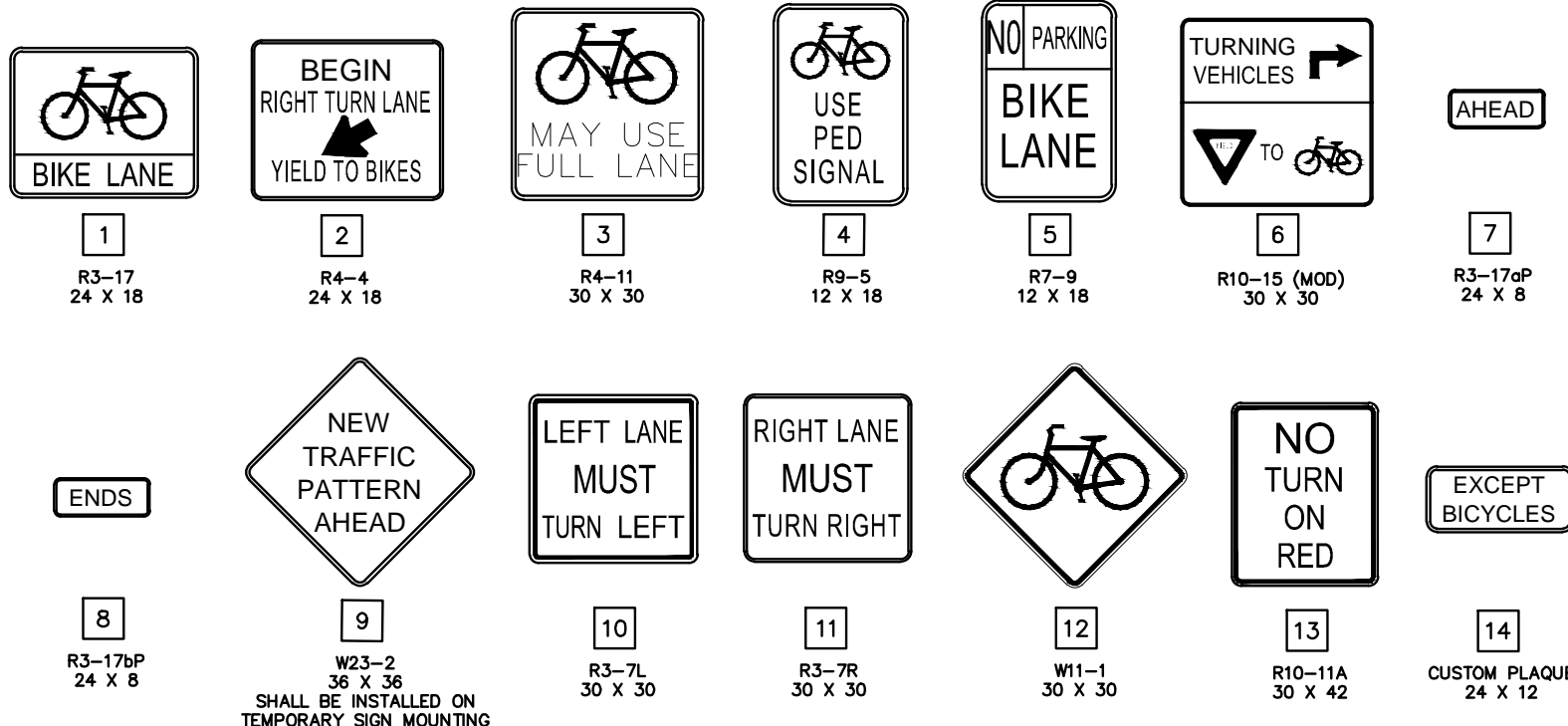
MATCH LINE G

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (X) WHITE, YIELD LINE
- (Y) YELLOW, 6" WIDTH
- (ZA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
- (SS) WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (3) POST MOUNTED SIGN



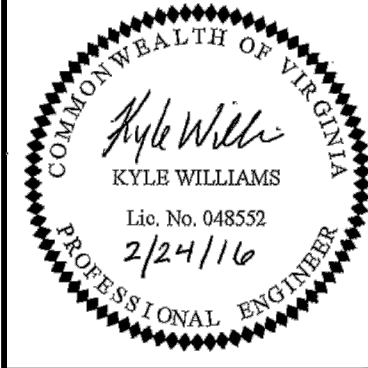
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

VIRGINIA

NORFOLK

BICYCLE LOOP LAYOUT

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



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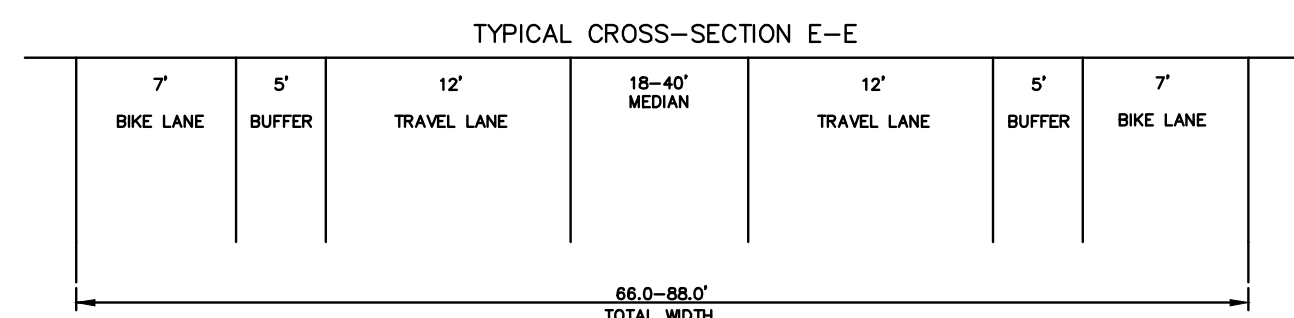
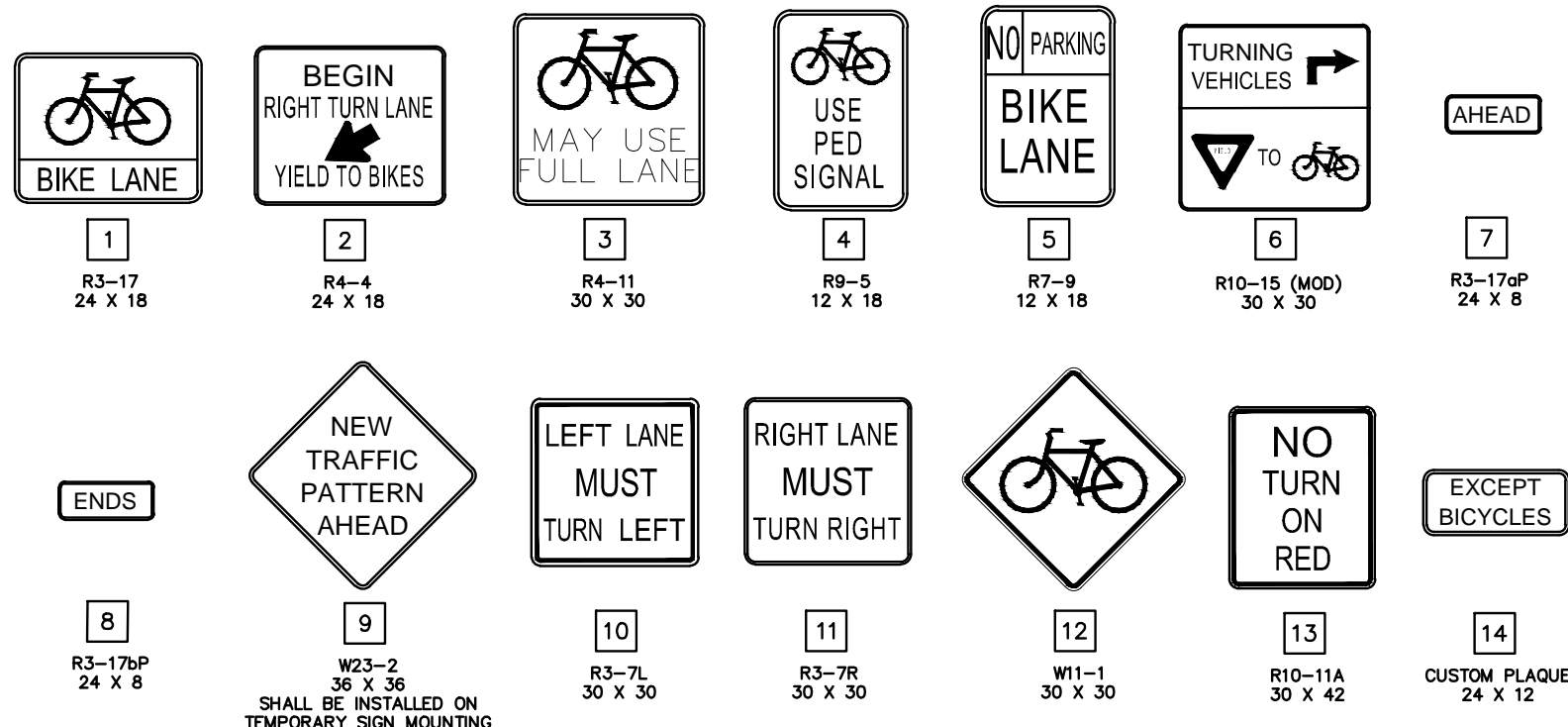


### PAVEMENT MARKING LEGEND:

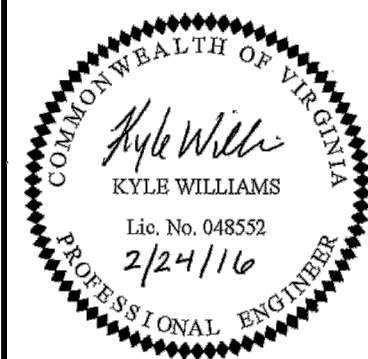
- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10' LONG, 30' SPACE @ 4" SPACING

①	WHITE, 24" WIDTH 24" SPACING, 10' LONG
②	WHITE, 12" WIDTH, 10' LONG, 30' SPACE
③	WHITE, 6" WIDTH, 10' LONG, 30' SPACE
④	WHITE, 4" WIDTH, 3' LONG, 9' SPACE
⑤	WHITE, 6" WIDTH, 3' LONG, 9' SPACE
⑥	WHITE, 8" WIDTH, 3' LONG, 9' SPACE
⑦	WHITE, 12" WIDTH, 3' LONG, 9' SPACE
⑧	WHITE, 6" WIDTH, 2' LONG, 4' SPACE
⑨	YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
⑩	WHITE, YIELD LINE
⑪	YELLOW, 6" WIDTH
AA	WHITE, 12" WIDTH
BB	WHITE, QUADRUPLE LINE: {4} 6" WIDTH
CC	WHITE, WORD MESSAGE "ONLY"
DD	WHITE, WORD MESSAGE "SLOW"

- ⓔ WHITE, WORD MESSAGE "SCHOOL"
- ⓕ WHITE, WORD MESSAGE "STOP AHEAD"
- ⓖ WHITE, WORD MESSAGE (OTHER)
- ⓗ WHITE, WORD MESSAGE "YIELD"
- ⓘ WHITE, HOV SYMBOL
- ⓙ WHITE, SPEED HUMP MARKINGS
- ⓚ WHITE, BICYCLE LANE SYMBOL AND ARROW
- ⓛ WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- ⓜ WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- ⓝ WHITE, BICYCLE SHARROW SYMBOL
- ⓞ WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20" SPACE
- ① STANDARD INTERSECTION TREATMENT
- ② ADVANCED INTERSECTION TREATMENT
- ⓐ POST MOUNTED SIGN



KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



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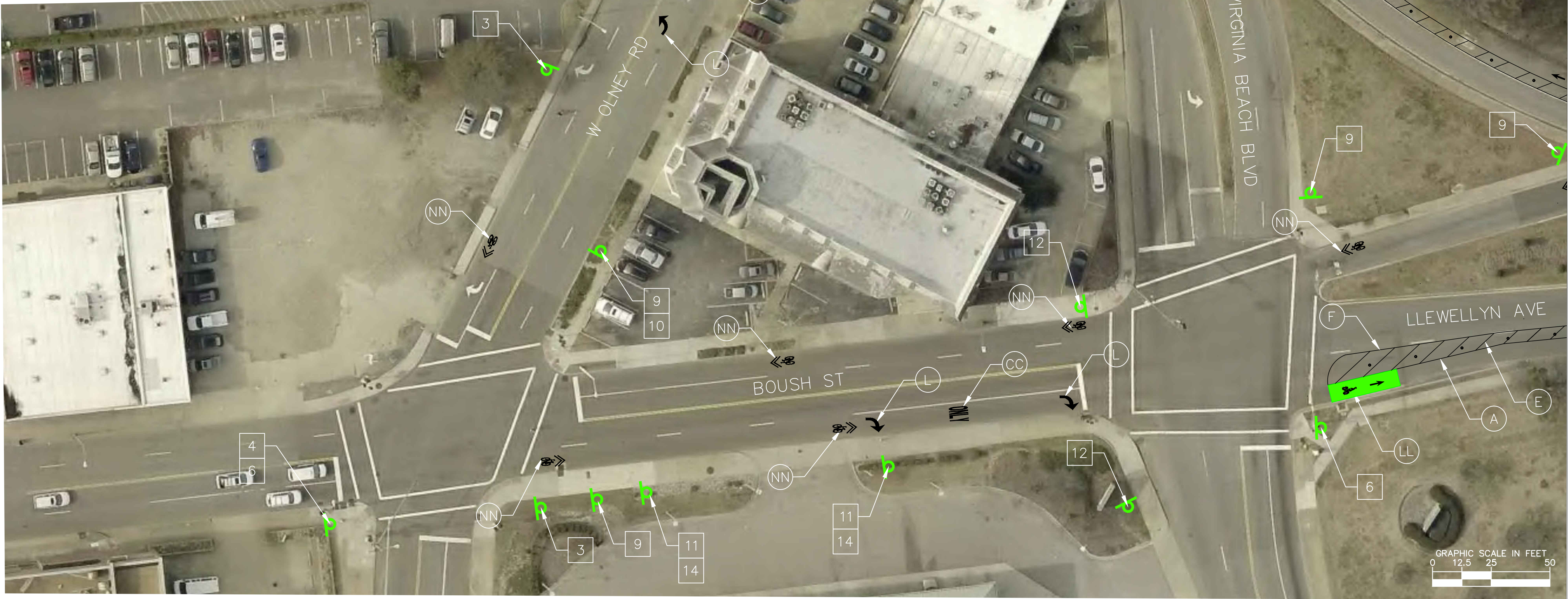
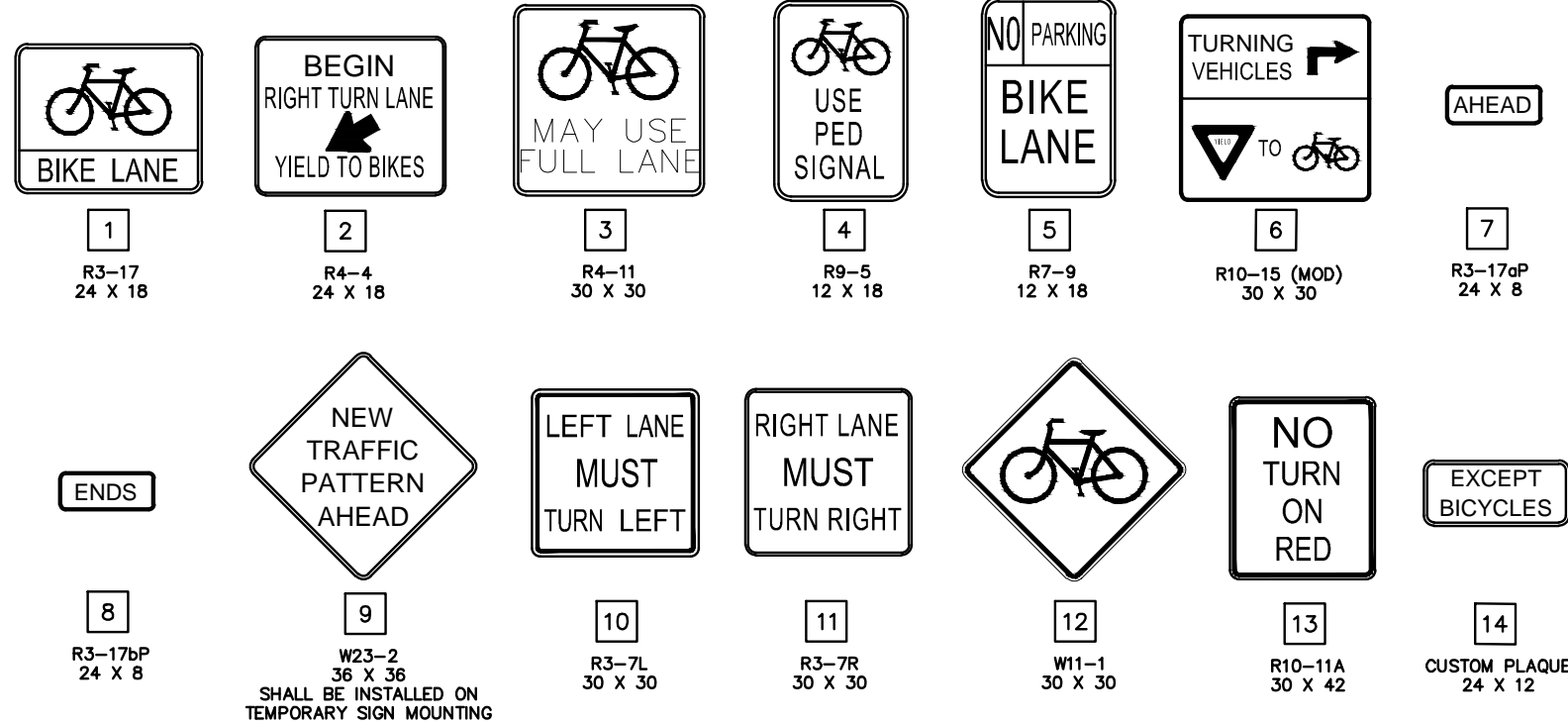
Plotted By: Oleynik, Mason    Sheet Set: K10    Layout: 13 BIKE LOOP LAYOUT    February 24, 2016    08:28:58am    K:\VAB-TPT0\116057099-norfolk bike pilot loop\CADD\plan sheets\13 BIKE LOOP LAYOUT.dwg  
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PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 8" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(Y) WHITE, YIELD LINE  
(Z) YELLOW, 6" WIDTH  
(AA) WHITE, 12" WIDTH  
(BB) WHITE, QUADRUPE LINE: (4) 6" WIDTH  
(CC) WHITE, WORD MESSAGE "ONLY"  
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- (EE) WHITE, WORD MESSAGE "SCHOOL"  
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(HH) WHITE, WORD MESSAGE "YIELD"  
(II) WHITE, HOV SYMBOL  
(JJ) WHITE, SPEED HUMP MARKINGS  
(KK) WHITE, BICYCLE LANE SYMBOL AND ARROW  
(LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL  
(NN) WHITE, BICYCLE SHARROW SYMBOL  
(PP) WHITE, RAILROAD CROSSING SYMBOL  
• WHITE FLEX POST, 20' SPACE  
(1) STANDARD INTERSECTION TREATMENT  
(2) ADVANCED INTERSECTION TREATMENT  
• POST MOUNTED SIGN



No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA  
*Kyle Williams*  
KYLE WILLIAMS  
Lic. No. 048552  
2/24/16  
PROFESSIONAL ENGINEER

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW

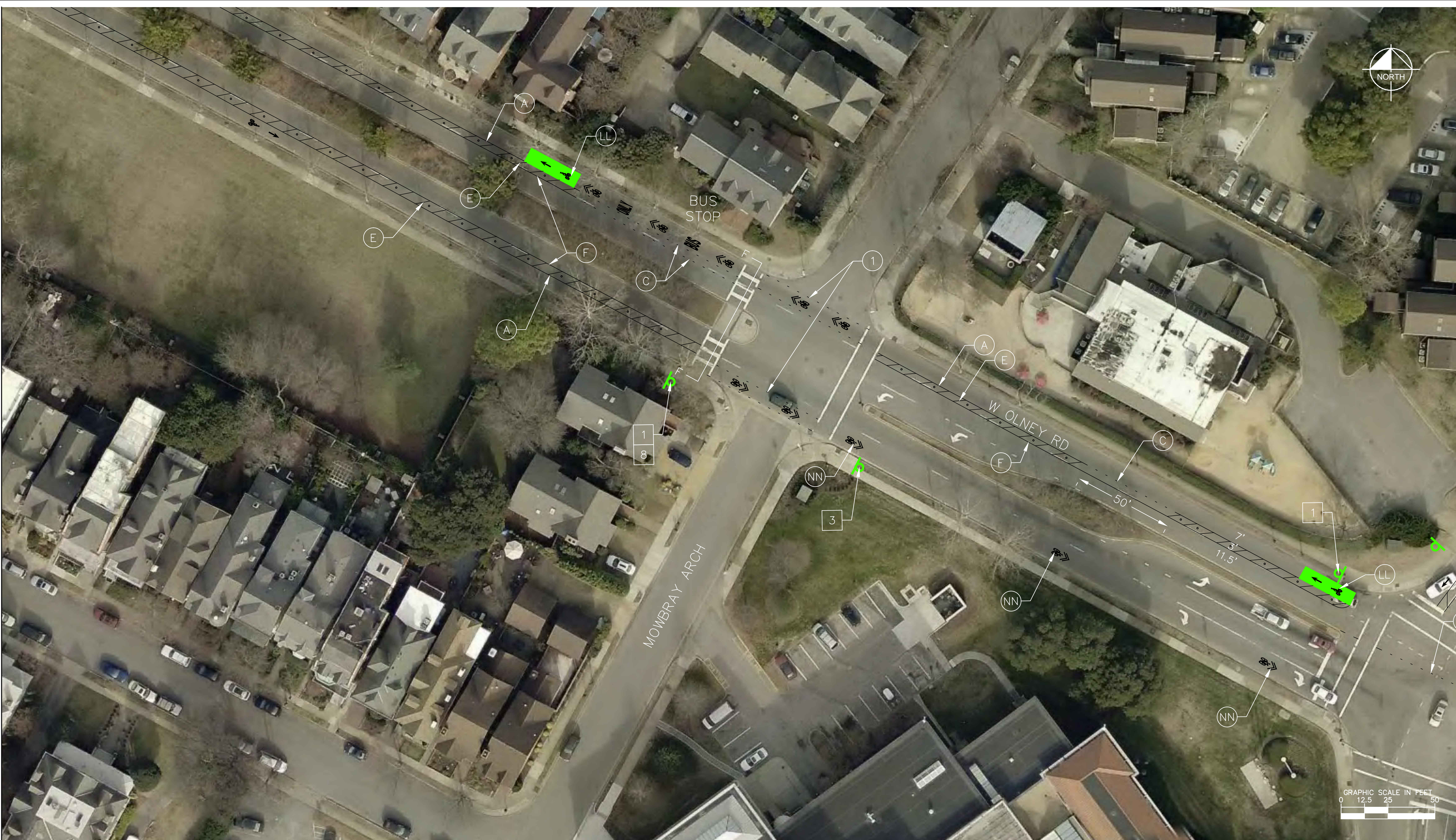
**BICYCLE LOOP LAYOUT**

**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK**



Plotted By: Cleavik, Meason Sheet Set: K10a Layout: 14 BICYCLE ROUTE PILOT February 24, 2016 08:26:39m K:\VAB-TP\116057099-norfolk bike pilot loop\CADD\plan sheets\14 BIKE LOOP LAYOUT.dwg  
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MATCH LINE L



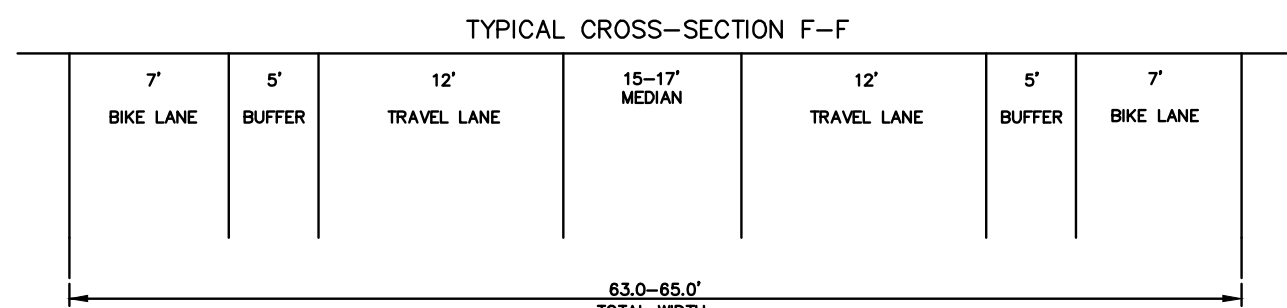
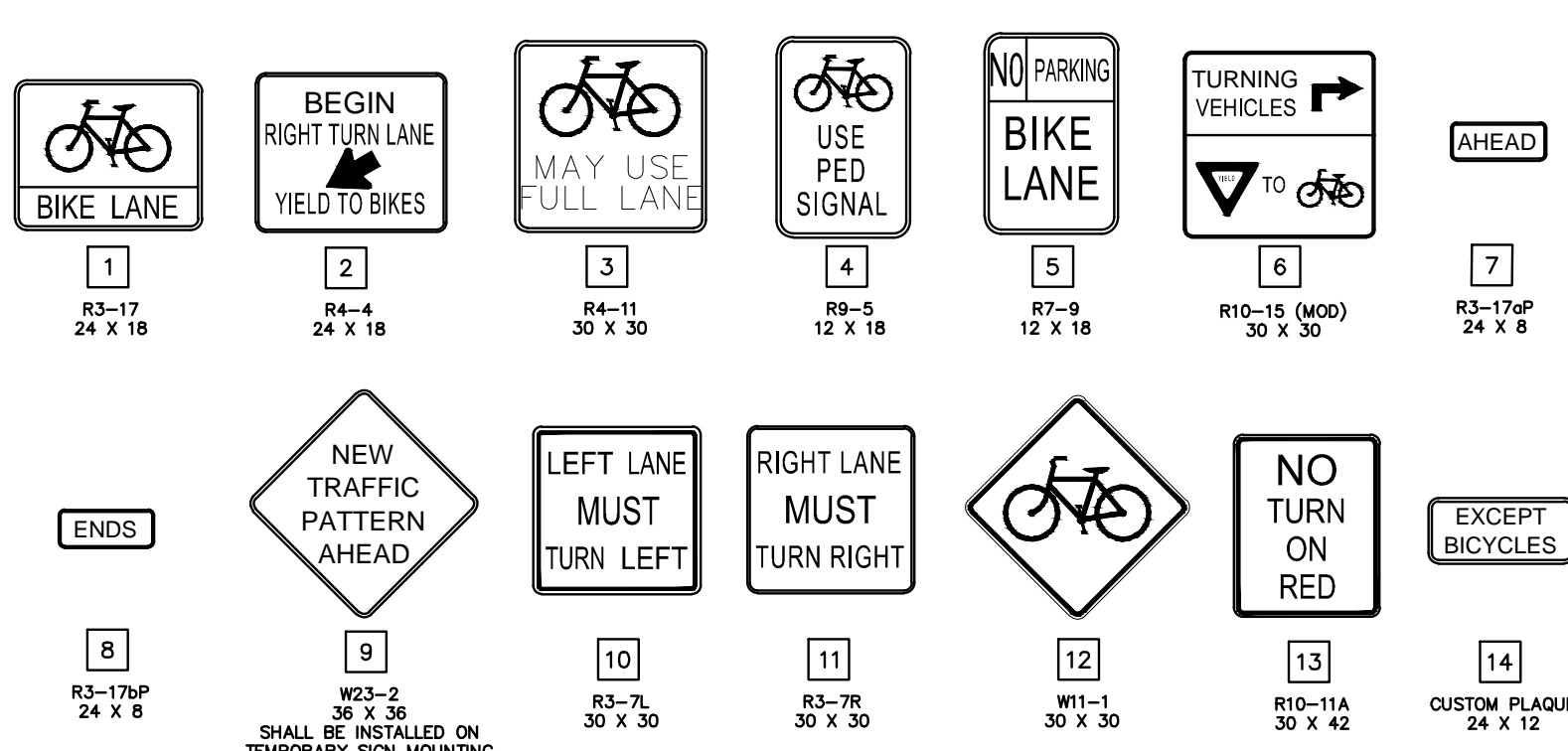
MATCH LINE K

#### PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (Y) WHITE, YIELD LINE
- (Z) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (3) POST MOUNTED SIGN

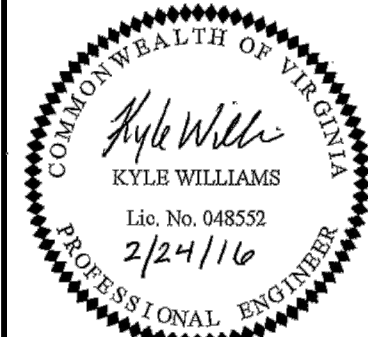


BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK VIRGINIA

BICYCLE LOOP LAYOUT

KHA PROJECT  
116057099  
DATE  
02/24/16  
SCALE  
AS SHOWN  
DESIGNED BY  
MMO  
DRAWN BY  
MMO  
CHECKED BY  
KDW



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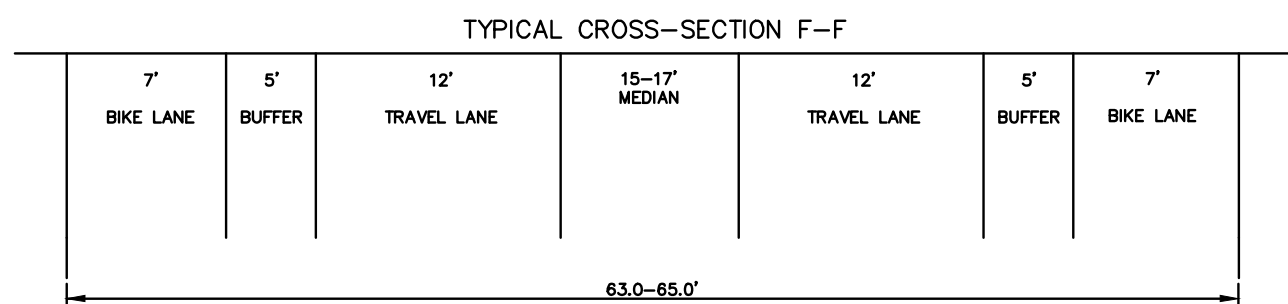
REVISIONS  
No. DATE BY





- (O)** WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P)** WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q)** WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R)** WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S)** WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T)** WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U)** WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V)** WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W)** YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (Y)** WHITE, YIELD LINE
- (Z)** YELLOW, 6" WIDTH
- (AA)** WHITE, 12" WIDTH
- (BB)** WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC)** WHITE, WORD MESSAGE "ONLY"
- (DD)** WHITE, WORD MESSAGE "SLOW"

	WHITE, WORD MESSAGE "SCHOOL"
	WHITE, WORD MESSAGE "STOP AHEAD"
	WHITE, WORD MESSAGE (OTHER)
	WHITE, WORD MESSAGE "YIELD"
	WHITE, HOV SYMBOL
	WHITE, SPEED HUMP MARKINGS
	WHITE, BICYCLE LANE SYMBOL AND ARROW
	WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
	WHITE, PRIORITY BICYCLE SHARROW SYMBOL
	WHITE, BICYCLE SHARROW SYMBOL
	WHITE, RAILROAD CROSSING SYMBOL
	WHITE FLEX POST, 20' SPACE
	STANDARD INTERSECTION TREATMENT
	ADVANCED INTERSECTION TREATMENT
	POST MOUNTED SIGN



TYPICAL CROSS-SECTION F-F







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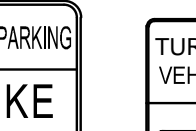
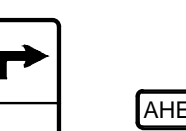



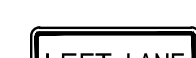




**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS**  
PREPARED FOR  
**CITY OF NORFOLK**

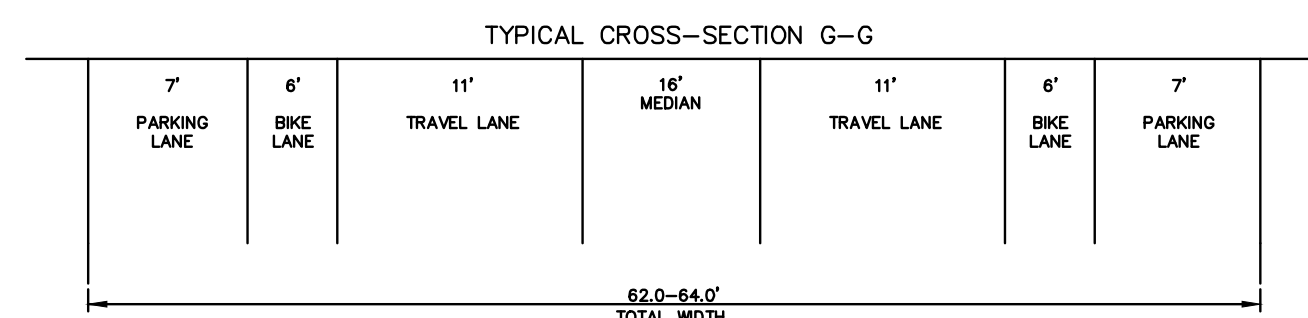
NORFOLK

16

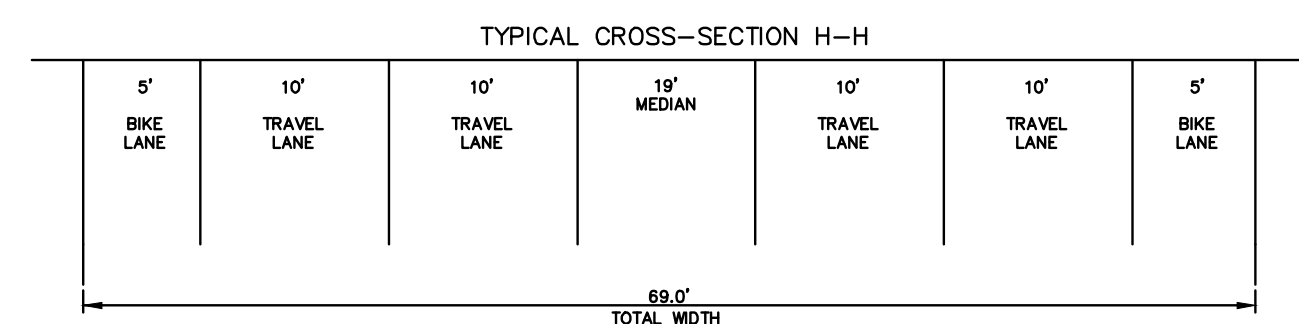
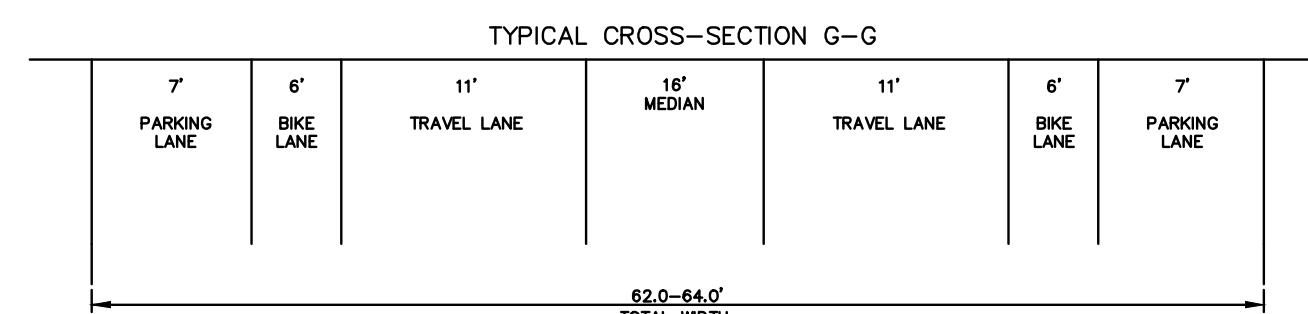
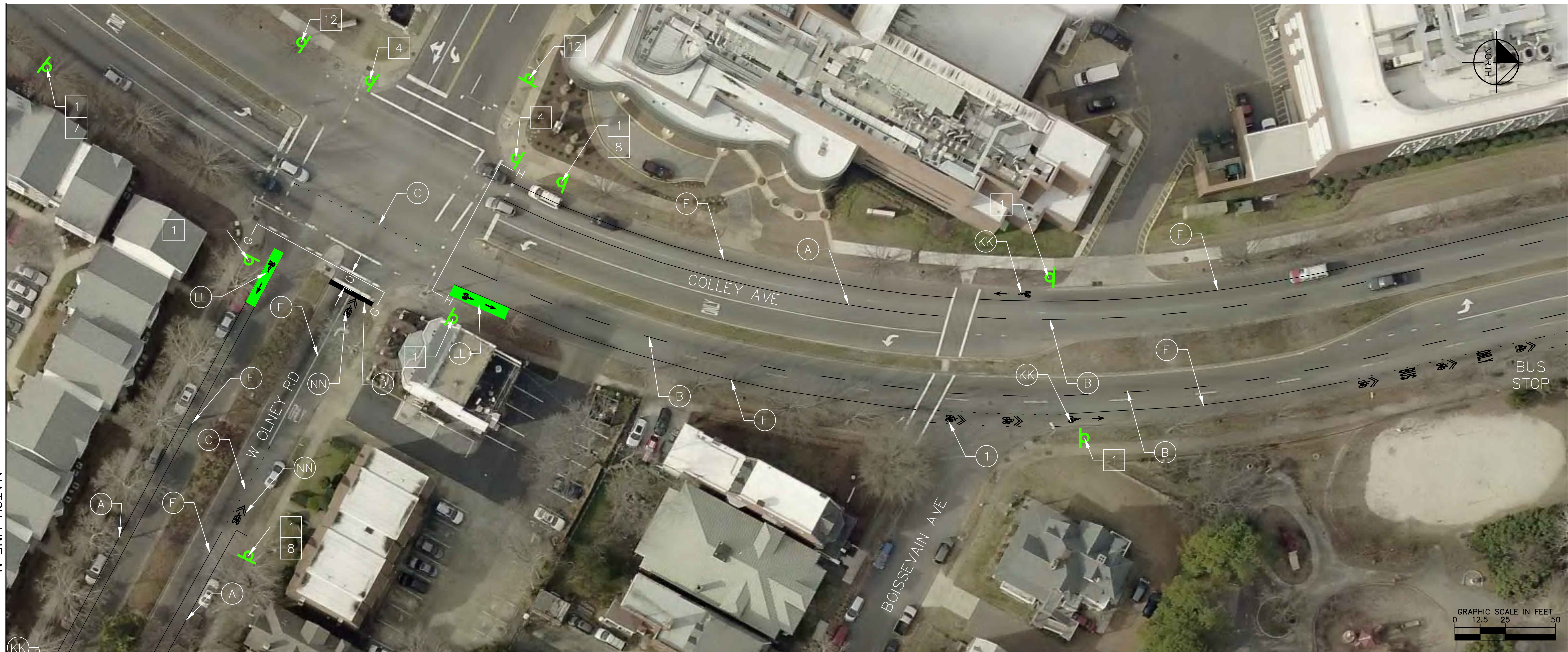
- ⓪ WHITE, 24" WIDTH 24" SPACING, 10' LONG
- Ⓛ WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- Ⓚ WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- Ⓡ WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- Ⓢ WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- Ⓣ WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- Ⓤ WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- Ⓟ WHITE, 6" WIDTH, 2' LONG, 9' SPACE
- Ⓜ YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- Ⓨ WHITE, YIELD LINE
- Ⓩ YELLOW, 6" WIDTH
- Ⓐ WHITE, 12" WIDTH
- Ⓑ WHITE, QUADRUPEL LINE: (4) 6" WIDTH
- Ⓒ WHITE, WORD MESSAGE "ONLY"
- Ⓓ WHITE, WORD MESSAGE "SLOW"

	WHITE, WORD MESSAGE "SCHOOL"
	WHITE, WORD MESSAGE "STOP AHEAD"
	WHITE, WORD MESSAGE (OTHER)
	WHITE, WORD MESSAGE "YIELD"
	WHITE, HOV SYMBOL
	WHITE, SPEED HUMP MARKINGS
	WHITE, BICYCLE LANE SYMBOL AND ARROW
	WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
	WHITE, PRIORITY BICYCLE SHARROW SYMBOL
	WHITE, BICYCLE SHARROW SYMBOL
	WHITE, RAILROAD CROSSING SYMBOL
	WHITE FLEX POST, 20' SPACE
	STANDARD INTERSECTION TREATMENT
	ADVANCED INTERSECTION TREATMENT
	POST MOUNTED SIGN

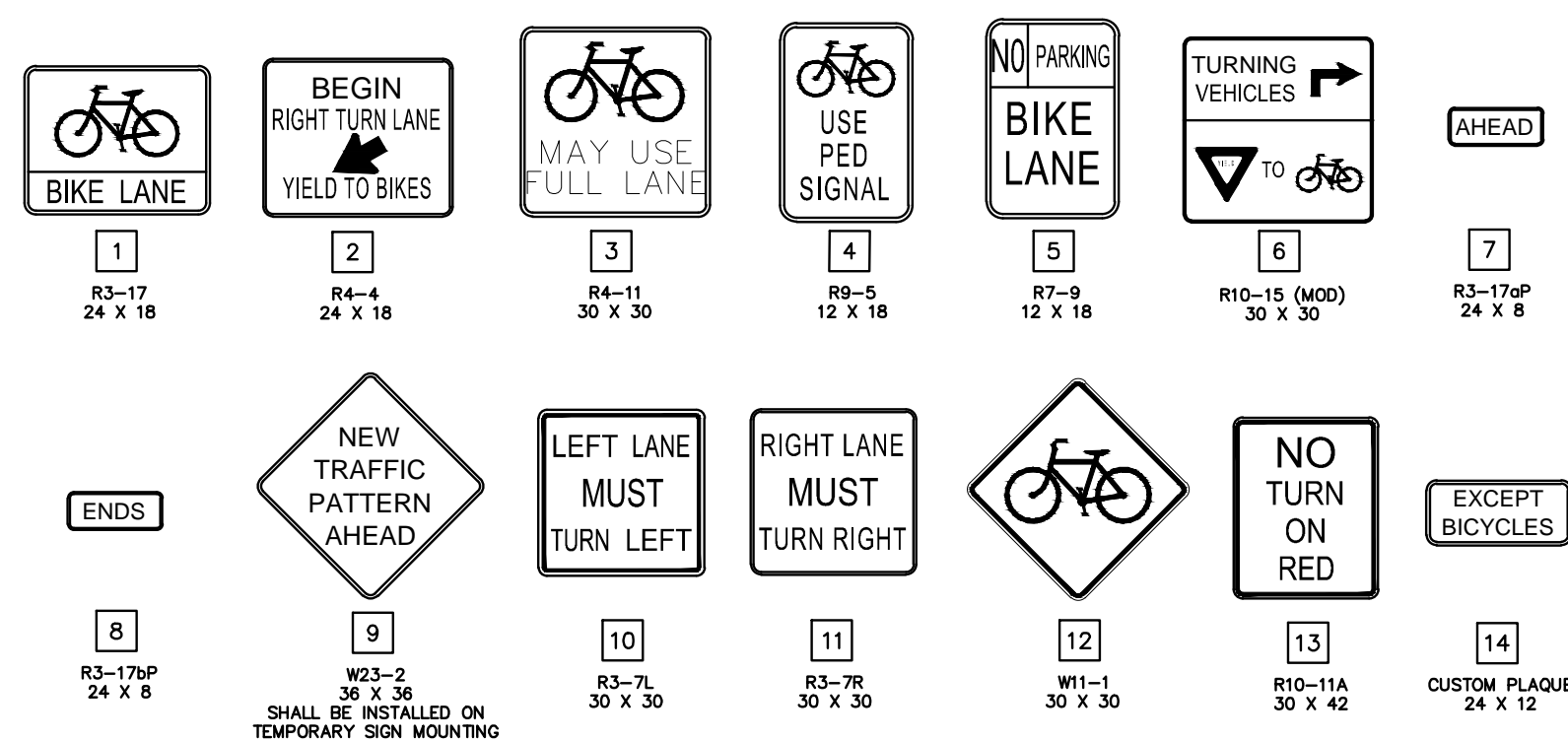
 <p>1</p> <p>R3-17 24 X 18</p>	 <p>2</p> <p>R4-4 24 X 18</p>	 <p>3</p> <p>R4-11 30 X 30</p>	 <p>4</p> <p>R9-5 12 X 18</p>	 <p>5</p> <p>R7-9 12 X 18</p>	 <p>6</p> <p>R10-15 (MOD) 30 X 30</p>	 <p>7</p> <p>R3-17aP 24 X 8</p>
 <p>8</p> <p>R3-17aP 24 X 8</p>	 <p>9</p> <p>W3-2 36 X 36</p> <p>SHALL BE INSTALLED ON TEMPORARY SIGN MOUNTING</p>	 <p>10</p> <p>R3-7L 30 X 30</p>	 <p>11</p> <p>R3-7R 30 X 30</p>	 <p>12</p> <p>W11-1 30 X 30</p>	 <p>13</p> <p>R10-11A 30 X 42</p>	 <p>14</p> <p>CUSTOM PLAQUE 24 X 12</p>







- | PAVEMENT MARKING LEGEND:   |   |
|--|---|
| (A) WHITE, 4" WIDTH  | (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG                |
| (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE   | (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE                 |
| (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE   | (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE                  |
| (D) WHITE, 24" WIDTH   | (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE                    |
| (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  | (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE                    |
| (F) WHITE, 6" WIDTH  | (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE                    |
| (G) WHITE, 8" WIDTH  | (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE                   |
| (H) YELLOW, 4" WIDTH   | (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE                    |
| (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING                            | (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE                 |
| (J) YELLOW, 24" WIDTH @ 45 DEGREES   | (Y) WHITE, YIELD LINE                                     |
| (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE                                 | (Z) YELLOW, 6" WIDTH                                      |
| (L) WHITE, ELONGATED ARROW (S)   | (AA) WHITE, 12" WIDTH                                     |
| (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  | (AB) WHITE, QUADRUPE LINE: (4) 6" WIDTH                   |
| (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10' LONG, 30' SPACE @ 4" SPACING | (CC) WHITE, WORD MESSAGE "ONLY"                           |
|  | (DD) WHITE, WORD MESSAGE "SLOW"                           |
|  | (EE) WHITE, WORD MESSAGE "SCHOOL"                         |
|  | (FF) WHITE, WORD MESSAGE "STOP AHEAD"                     |
|  | (GG) WHITE, WORD MESSAGE (OTHER)                          |
|  | (HH) WHITE, WORD MESSAGE "YIELD"                          |
|  | (II) WHITE, HOV SYMBOL                                    |
|  | (JJ) WHITE, SPEED HUMP MARKINGS                           |
|  | (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW                 |
|  | (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL |
|  | (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL               |
|  | (NN) WHITE, BICYCLE SHARROW SYMBOL                        |
|  | (RR) WHITE, RAILROAD CROSSING SYMBOL                      |
|  | • WHITE FLEX POST, 20' SPACE                              |
|  | (1) STANDARD INTERSECTION TREATMENT                       |
|  | (2) ADVANCED INTERSECTION TREATMENT                       |
|  | • POST MOUNTED SIGN                                       |





MATCH LINE O



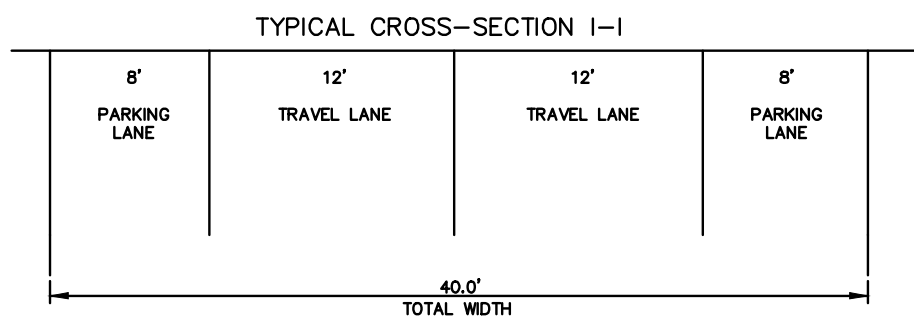
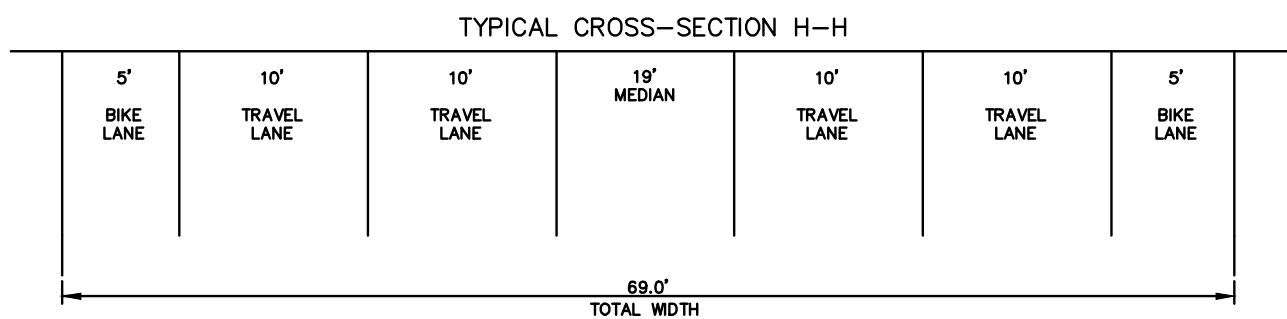
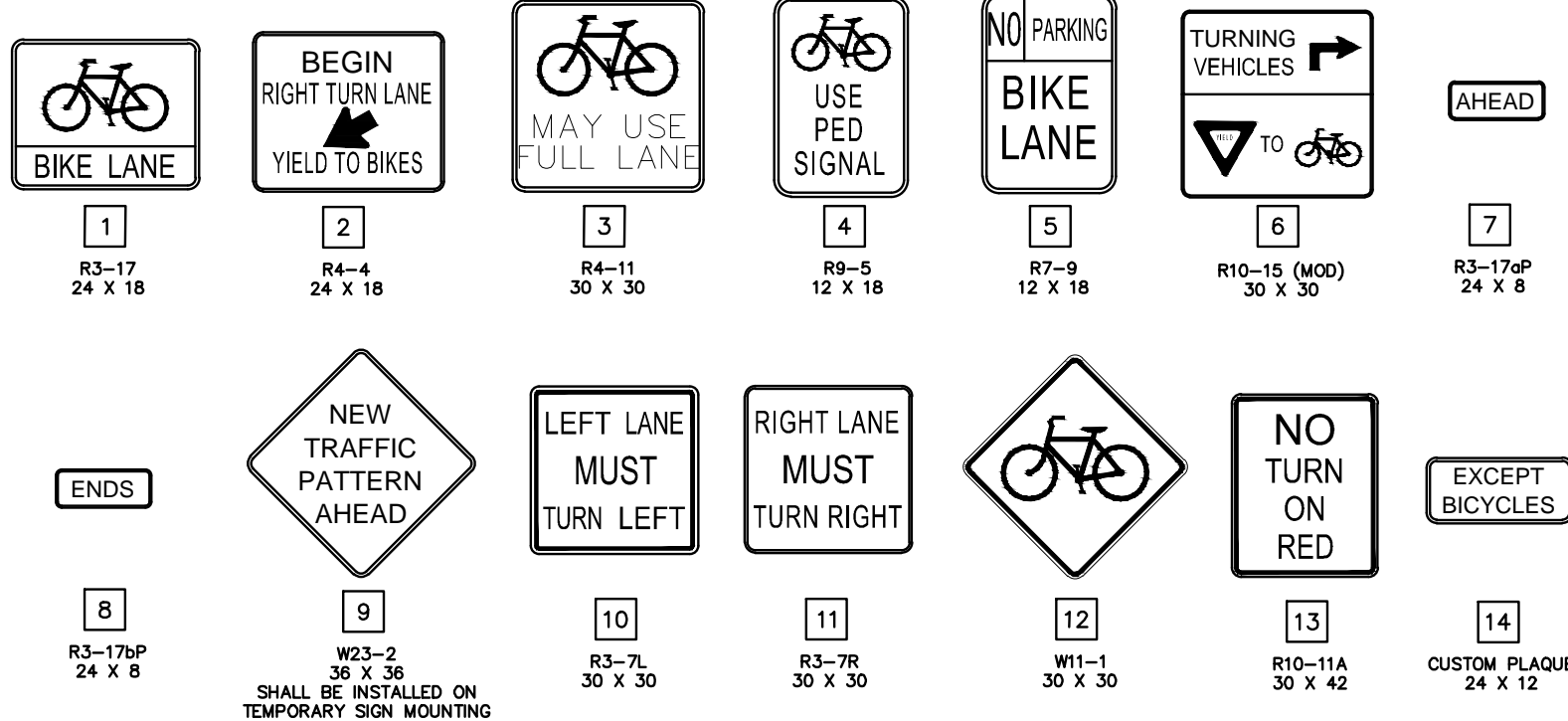
MATCH LINE P

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 8" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(X) WHITE, YIELD LINE  
(Y) YELLOW, 6" WIDTH  
(Z) WHITE, 12" WIDTH  
(AA) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
(AB) WHITE, WORD MESSAGE "ONLY"  
(AC) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"  
(EF) WHITE, WORD MESSAGE "STOP AHEAD"  
(EG) WHITE, WORD MESSAGE (OTHER)  
(EH) WHITE, WORD MESSAGE "YIELD"  
(EI) WHITE, HOV SYMBOL  
(EJ) WHITE, SPEED HUMP MARKINGS  
(EK) WHITE, BICYCLE LANE SYMBOL AND ARROW  
(EL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL  
(NN) WHITE, BICYCLE SHARROW SYMBOL  
(NR) WHITE, RAILROAD CROSSING SYMBOL  
• WHITE FLEX POST, 20' SPACE  
(1) STANDARD INTERSECTION TREATMENT  
(2) ADVANCED INTERSECTION TREATMENT  
• POST MOUNTED SIGN



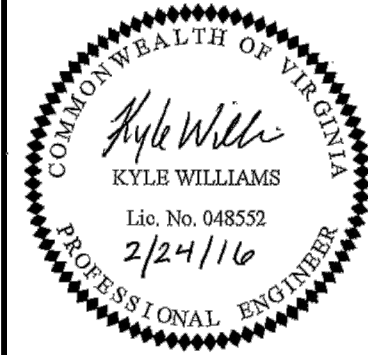
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK

VIRGINIA

BICYCLE LOOP LAYOUT

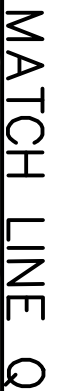
KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



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No.	REVISIONS	DATE	BY

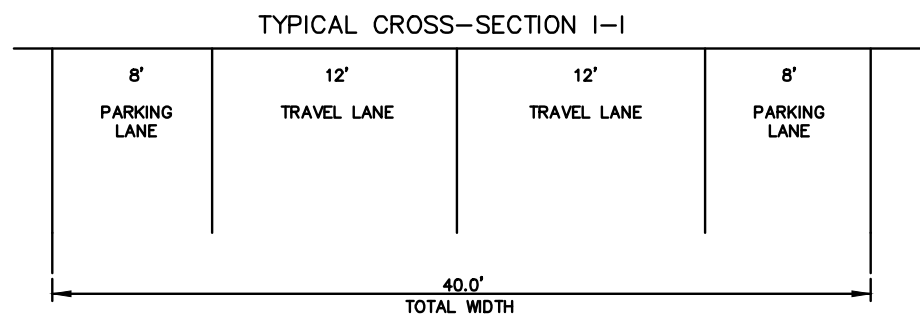
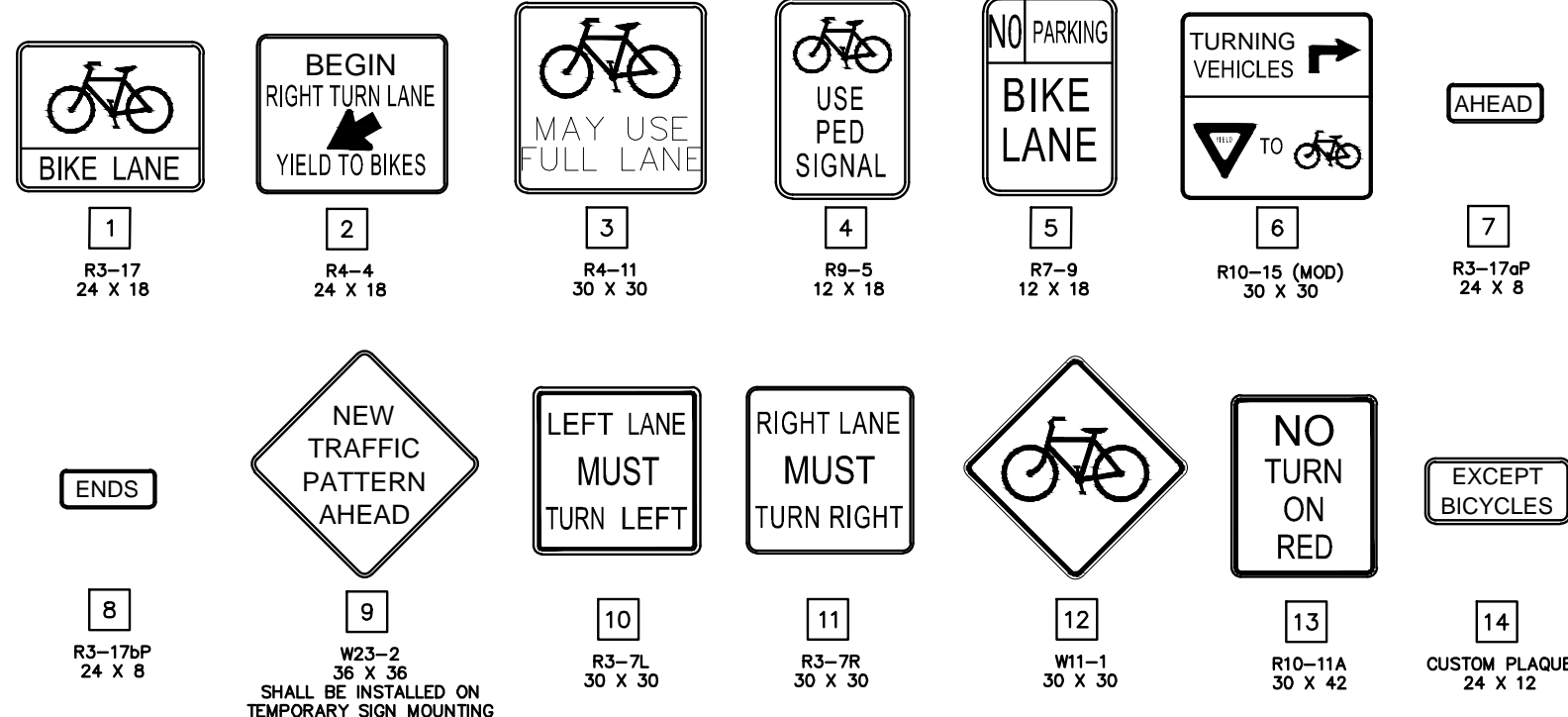




- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10' LONG, 30' SPACE @ 4" SPACING

①	WHITE, 24" WIDTH 24" SPACING, 10' LONG
②	WHITE, 12" WIDTH, 10' LONG, 30' SPACE
③	WHITE, 6" WIDTH, 10' LONG, 30' SPACE
④	WHITE, 4" WIDTH, 3' LONG, 9' SPACE
⑤	WHITE, 6" WIDTH, 3' LONG, 9' SPACE
⑥	WHITE, 8" WIDTH, 3' LONG, 9' SPACE
⑦	WHITE, 12" WIDTH, 3' LONG, 9' SPACE
⑧	WHITE, 6" WIDTH, 2' LONG, 4' SPACE
⑨	YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
⑩	WHITE, YIELD LINE
⑪	YELLOW, 6" WIDTH
⑫	WHITE, 12" WIDTH
⑬	WHITE, QUADRUPLE LINE: (4) 6" WIDTH
⑭	WHITE, WORD MESSAGE "ONLY"
⑮	WHITE, WORD MESSAGE "SLOW"

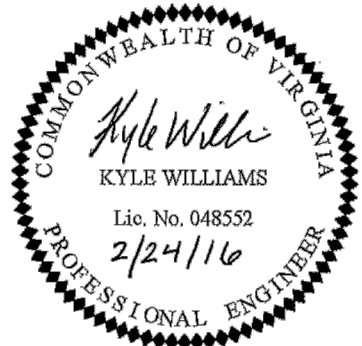
	WHITE, WORD MESSAGE "SCHOOL"
	WHITE, WORD MESSAGE "STOP AHEAD"
	WHITE, WORD MESSAGE (OTHER)
	WHITE, WORD MESSAGE "YIELD"
	WHITE, HOV SYMBOL
	WHITE, SPEED HUMP MARKINGS
	WHITE, BICYCLE LANE SYMBOL AND ARROW
	WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
	WHITE, PRIORITY BICYCLE SHARROW SYMBOL
	WHITE, BICYCLE SHARROW SYMBOL
	WHITE, RAILROAD CROSSING SYMBOL
	WHITE FLEX POST, 20' SPACE
	STANDARD INTERSECTION TREATMENT
	ADVANCED INTERSECTION TREATMENT
	POST MOUNTED SIGN



NORFOLK

## BICYCLE LOOP LAYOUT

KHA PROJECT 116057099	DATE 02/24/16	SCALE AS SHOWN	DESIGNED BY MMO	DRAWN BY MMO	CHECKED BY KDW
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No.	REVISIONS	DATE	BY
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MATCH LINE R



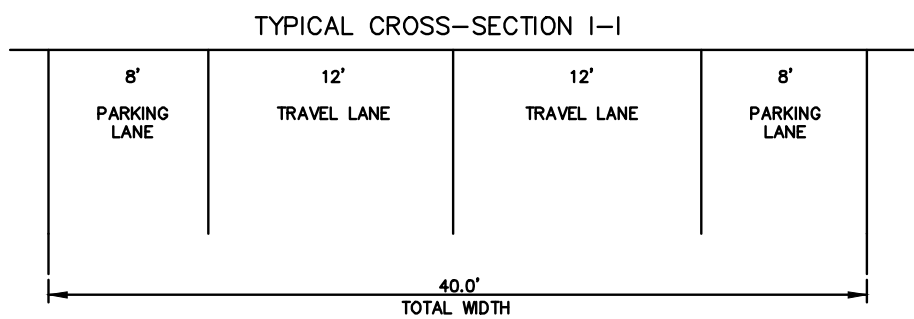
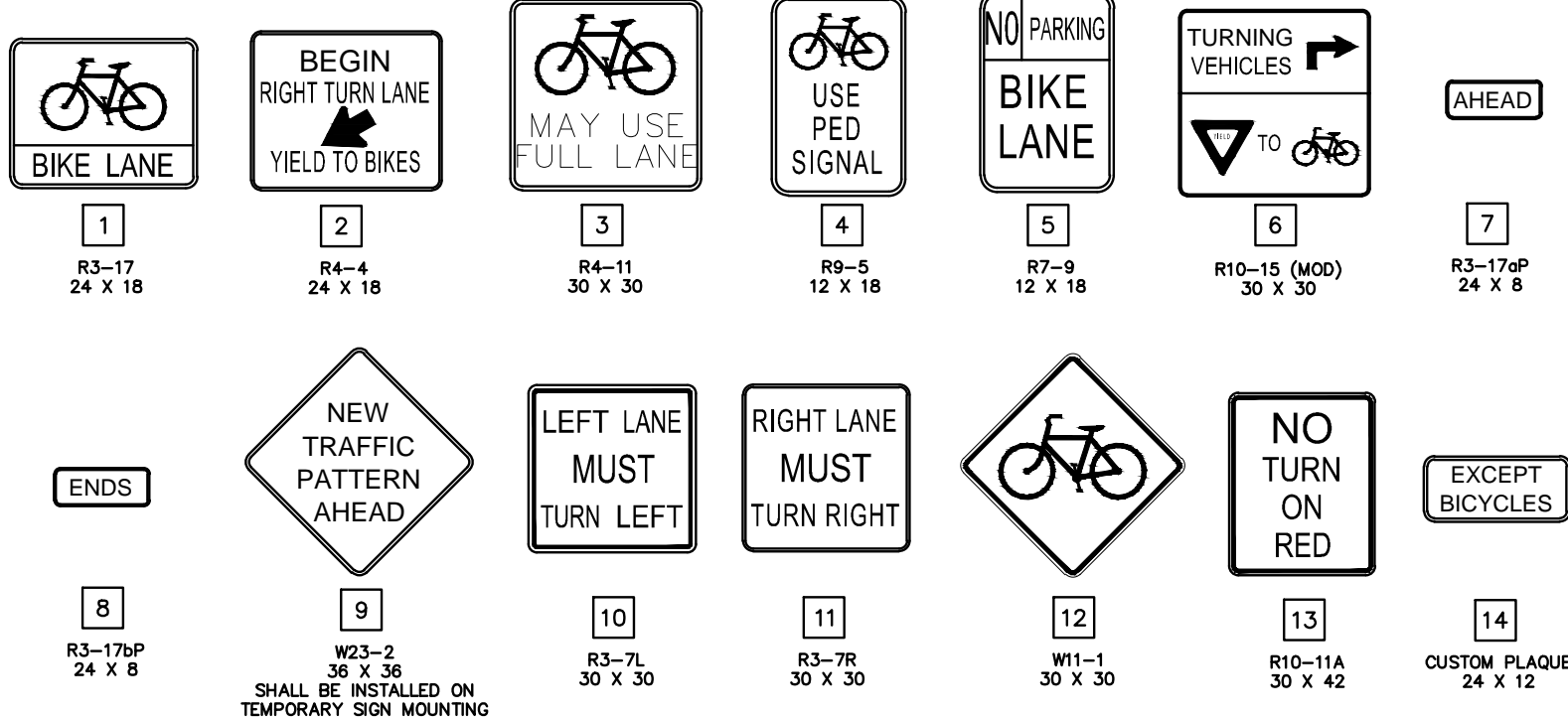
MATCH LINE S

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (Y) WHITE, YIELD LINE
- (Z) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
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- (EE) WHITE, WORD MESSAGE "SCHOOL"
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- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
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- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- POST MOUNTED SIGN



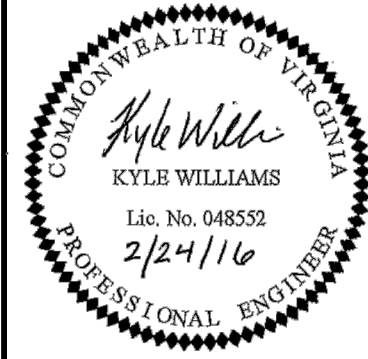
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

VIRGINIA

NORFOLK

SHEET NUMBER  
21

BICYCLE LOOP LAYOUT

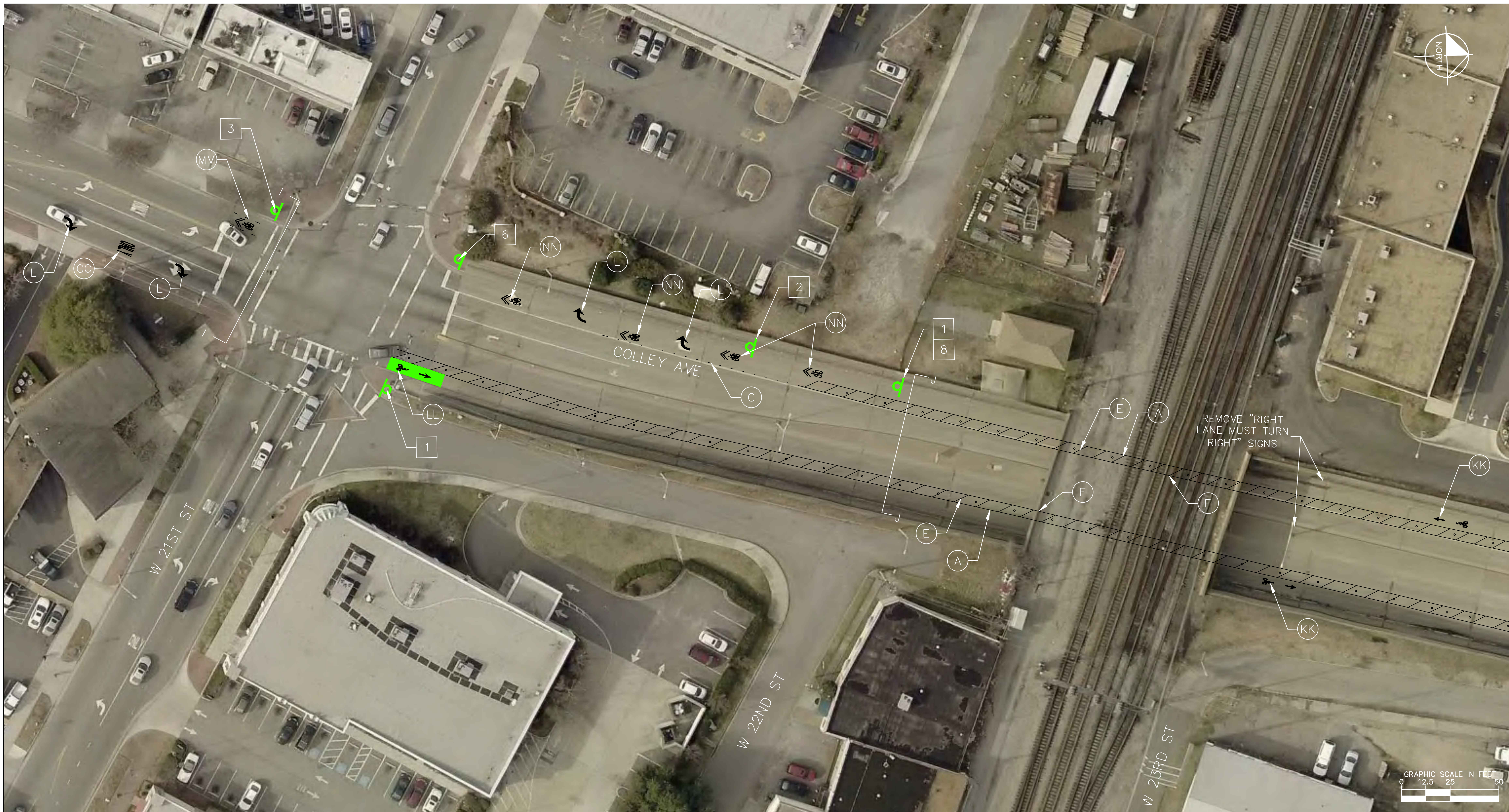


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NO.	REVISIONS	DATE	BY



















MATCH LINE S

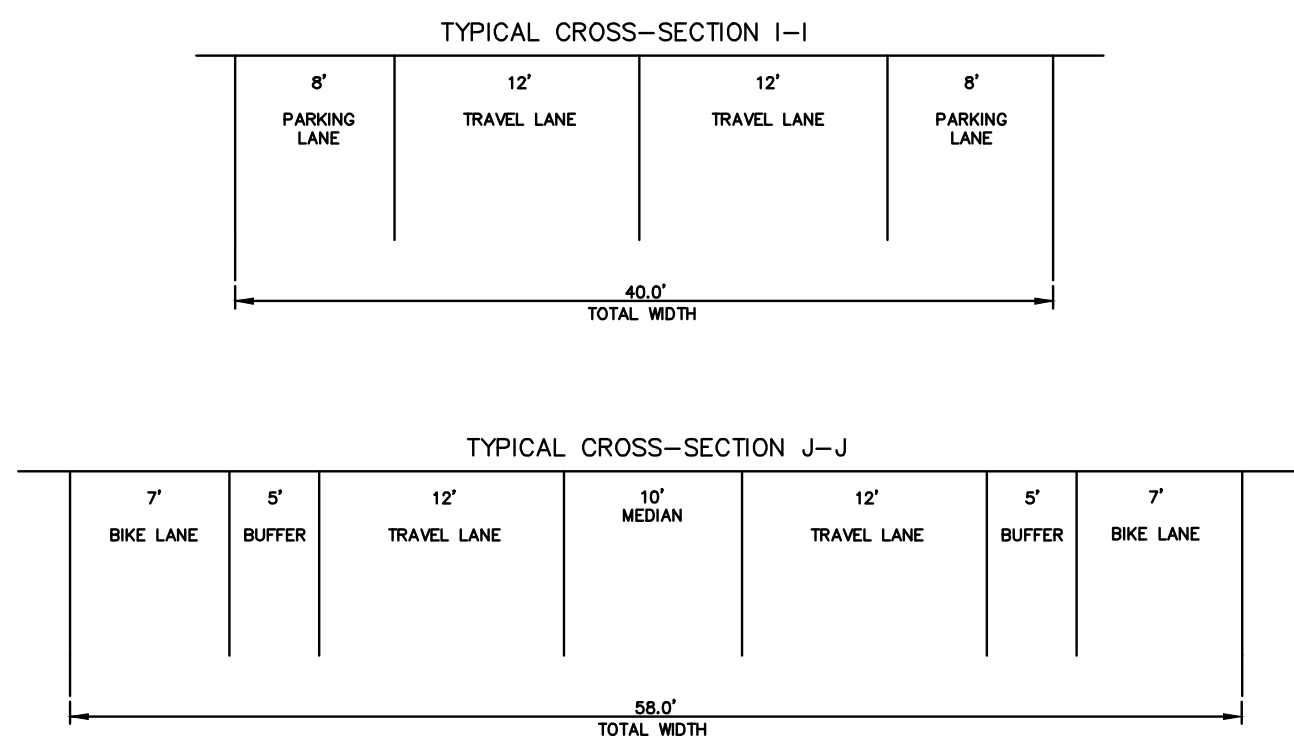
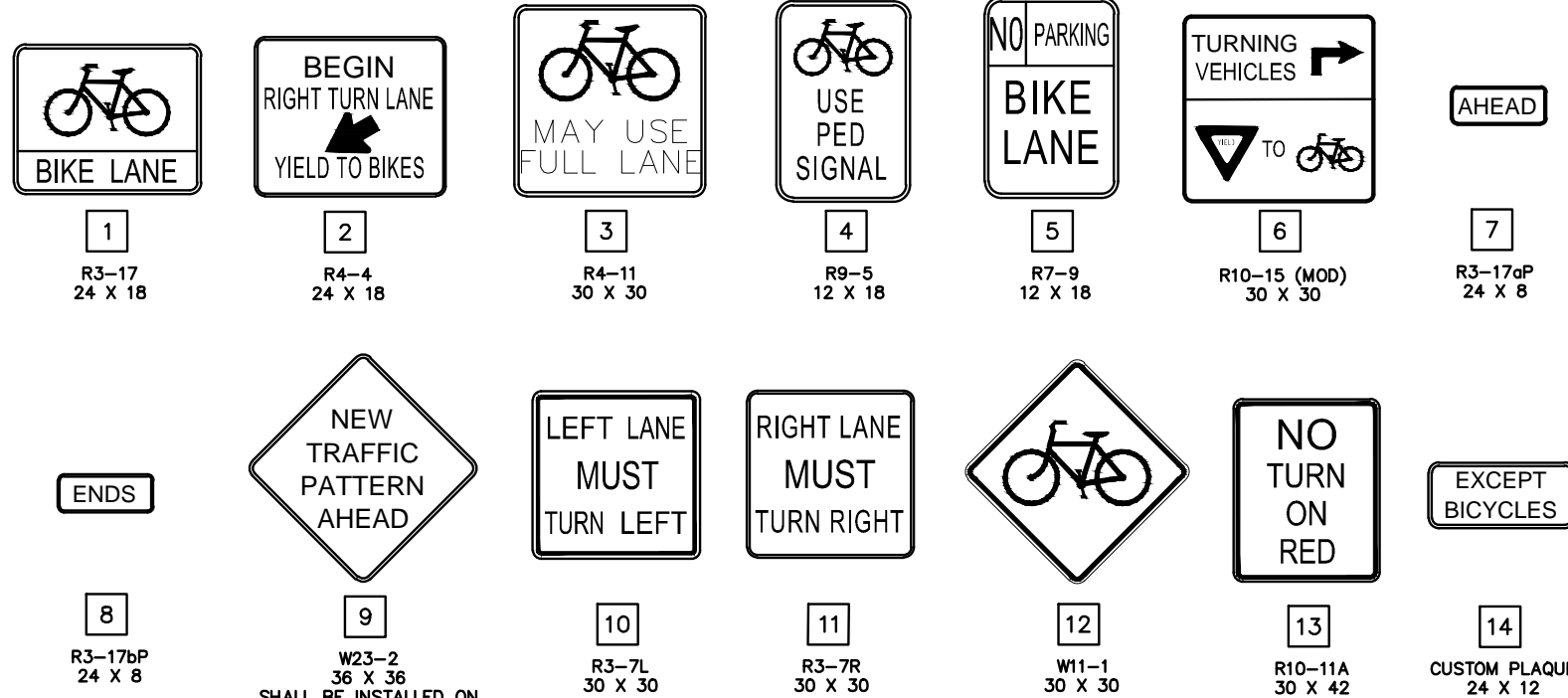


### PAVEMENT MARKING LEGEND:

(A)	WHITE, 4" WIDTH
(B)	WHITE, 4" WIDTH, 10' LONG, 30' SPACE
(C)	WHITE, 4" WIDTH, 2' LONG, 4' SPACE
(D)	WHITE, 24" WIDTH
(E)	WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
(F)	WHITE, 6" WIDTH
(G)	WHITE, 8" WIDTH
(H)	YELLOW, 4" WIDTH
(I)	YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
(J)	YELLOW, 24" WIDTH @ 45 DEGREES
(K)	YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
(L)	WHITE, ELONGATED ARROW (S)
(M)	YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
(N)	YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10' LONG, 30' SPACE @ 4" SPACING

Q	WHITE, 24" WIDTH 24" SPACING, 10' LONG
P	WHITE, 12" WIDTH, 10' LONG, 30' SPACE
R	WHITE, 6" WIDTH, 10' LONG, 30' SPACE
S	WHITE, 4" WIDTH, 3' LONG, 9' SPACE
T	WHITE, 6" WIDTH, 3' LONG, 9' SPACE
U	WHITE, 8" WIDTH, 3' LONG, 9' SPACE
V	WHITE, 12" WIDTH, 3' LONG, 9' SPACE
W	WHITE, 6" WIDTH, 2' LONG, 4' SPACE
X	YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
Y	WHITE, YIELD LINE
Z	YELLOW, 6" WIDTH
AA	WHITE, 12" WIDTH
BB	WHITE, QUADRUPLE LINE: (4) 6" WIDTH
CC	WHITE, WORD MESSAGE "ONLY"
DD	WHITE, WORD MESSAGE "SLOW"

-  WHITE, WORD MESSAGE "SCHOOL"
-  WHITE, WORD MESSAGE "STOP AHEAD"
-  WHITE, WORD MESSAGE (OTHER)
-  WHITE, WORD MESSAGE "YIELD"
-  WHITE, HOV SYMBOL
-  WHITE, SPEED HUMP MARKINGS
-  WHITE, BICYCLE LANE SYMBOL AND ARROW
-  WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
-  WHITE, PRIORITY BICYCLE SHARROW SYMBOL
-  WHITE, BICYCLE SHARROW SYMBOL
-  WHITE, RAILROAD CROSSING SYMBOL
  -  • WHITE FLEX POST, 20' SPACE
-  ① STANDARD INTERSECTION TREATMENT
-  ② ADVANCED INTERSECTION TREATMENT
-   POST MOUNTED SIGN

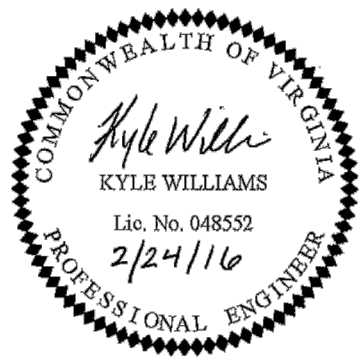


MATCH LINE T

**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS**  
PREPARED FOR  
**CITY OF NORFOLK**

## BICYCLE LOOP LAYOUT

KHA PROJECT	DATE
116057099	02/24/16
SCALE AS SHOWN	
DESIGNED BY	MMC
DRAWN BY	MMC
CHECKED BY	KDW



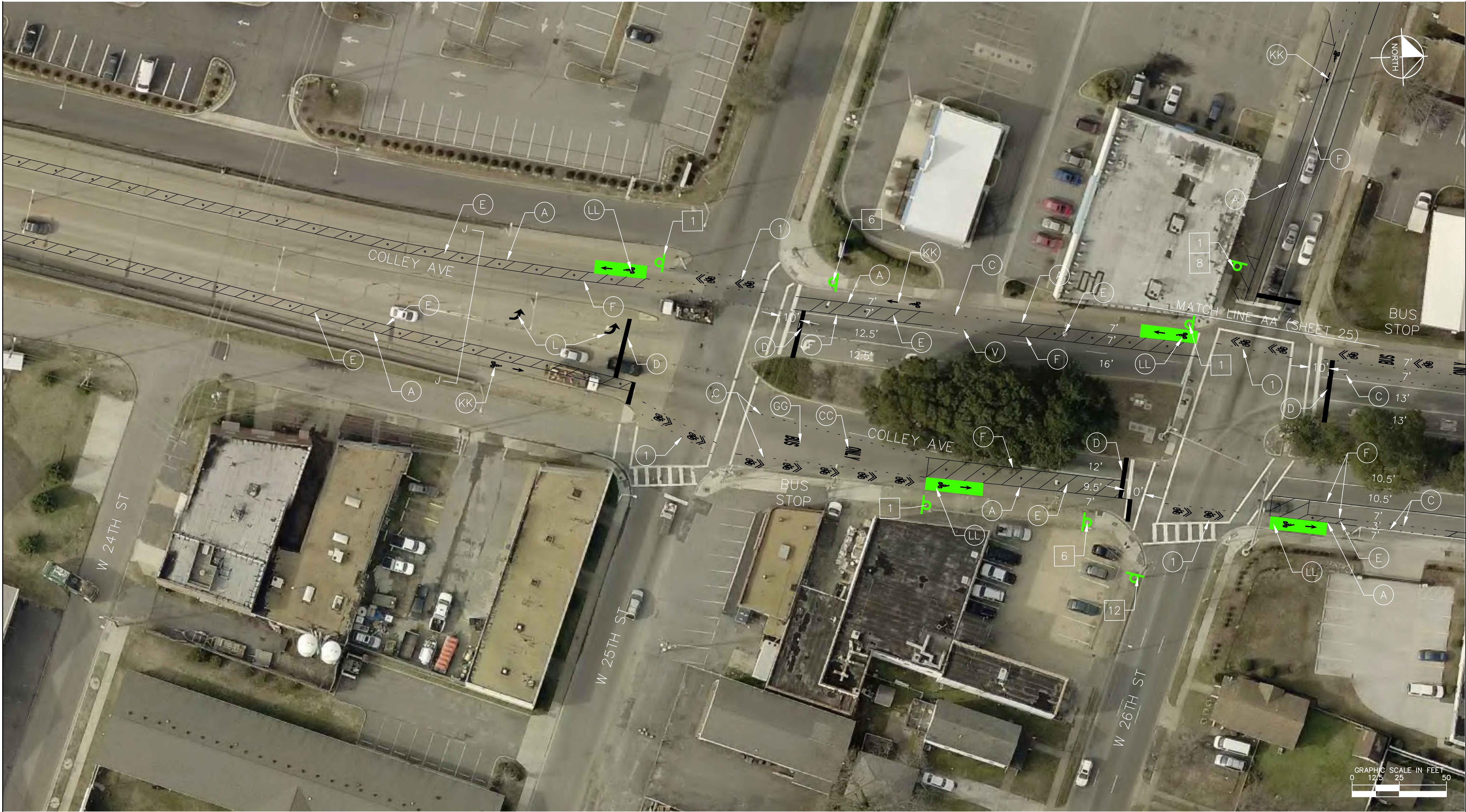
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[illegible]



MATCH LINE T



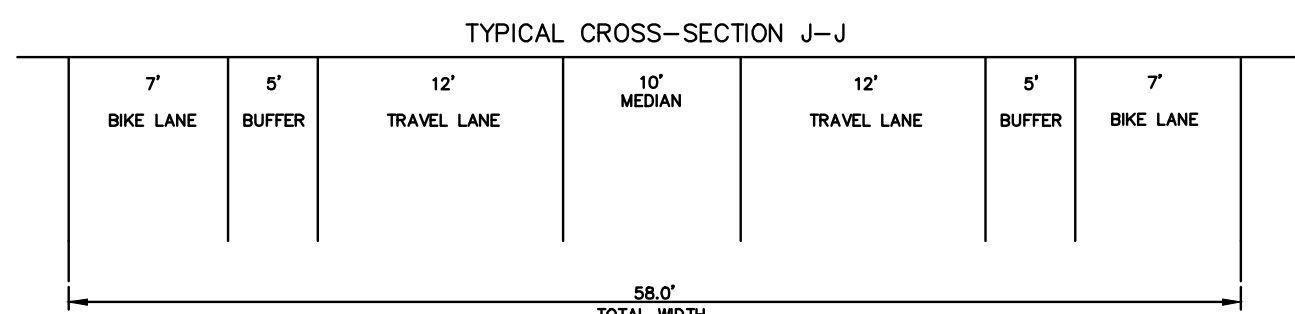
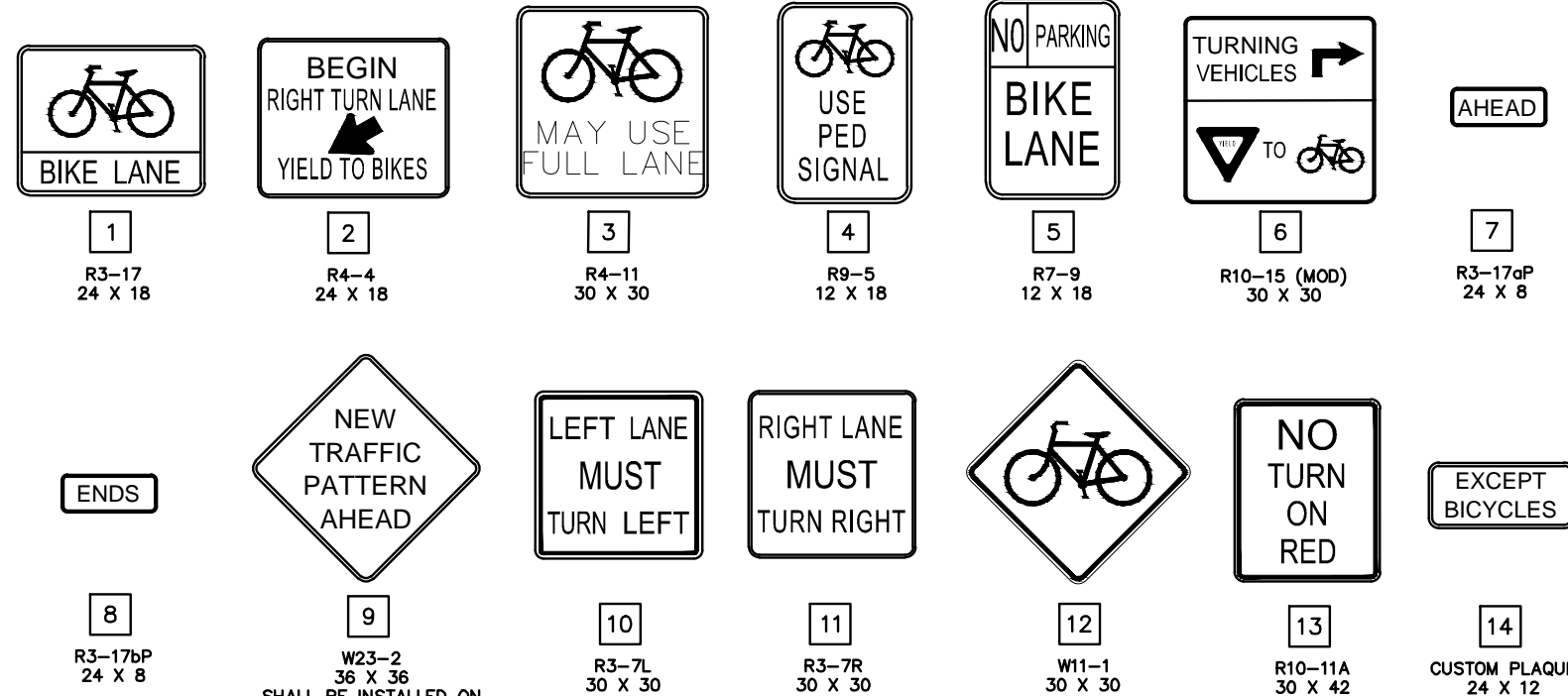
MATCH LINE U

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH  
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE  
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE  
(D) WHITE, 24" WIDTH  
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE  
(F) WHITE, 6" WIDTH  
(G) WHITE, 6" WIDTH  
(H) YELLOW, 4" WIDTH  
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING  
(J) YELLOW, 24" WIDTH @ 45 DEGREES  
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE  
(L) WHITE, ELONGATED ARROW (S)  
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE  
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
(X) WHITE, YIELD LINE  
(Y) YELLOW, 6" WIDTH  
(Z) YELLOW, 6" WIDTH  
(AA) WHITE, 12" WIDTH  
(AB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
(AC) WHITE, WORD MESSAGE "ONLY"  
(AD) WHITE, WORD MESSAGE "SLOW"

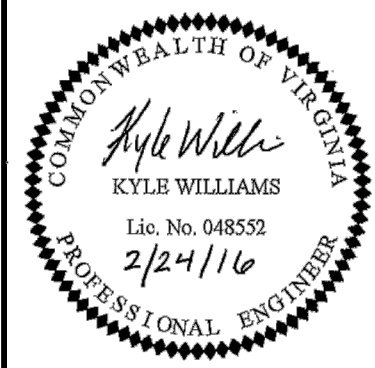
- (EE) WHITE, WORD MESSAGE "SCHOOL"  
(FF) WHITE, WORD MESSAGE "STOP AHEAD"  
(GG) WHITE, WORD MESSAGE (OTHER)  
(HH) WHITE, WORD MESSAGE "YIELD"  
(II) WHITE, HOV SYMBOL  
(JJ) WHITE, SPEED HUMP MARKINGS  
(KK) WHITE, BICYCLE LANE SYMBOL AND ARROW  
(LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL  
(MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL  
(NN) WHITE, BICYCLE SHARROW SYMBOL  
(RR) WHITE, RAILROAD CROSSING SYMBOL  
• WHITE FLEX POST, 20' SPACE  
(1) STANDARD INTERSECTION TREATMENT  
(2) ADVANCED INTERSECTION TREATMENT  
• POST MOUNTED SIGN



BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NO.	REVISIONS	DATE	BY

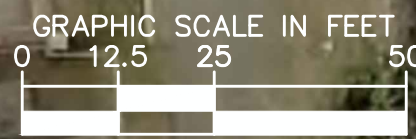
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KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW

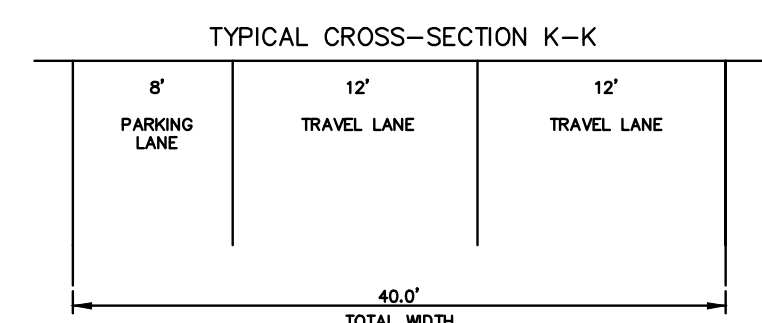
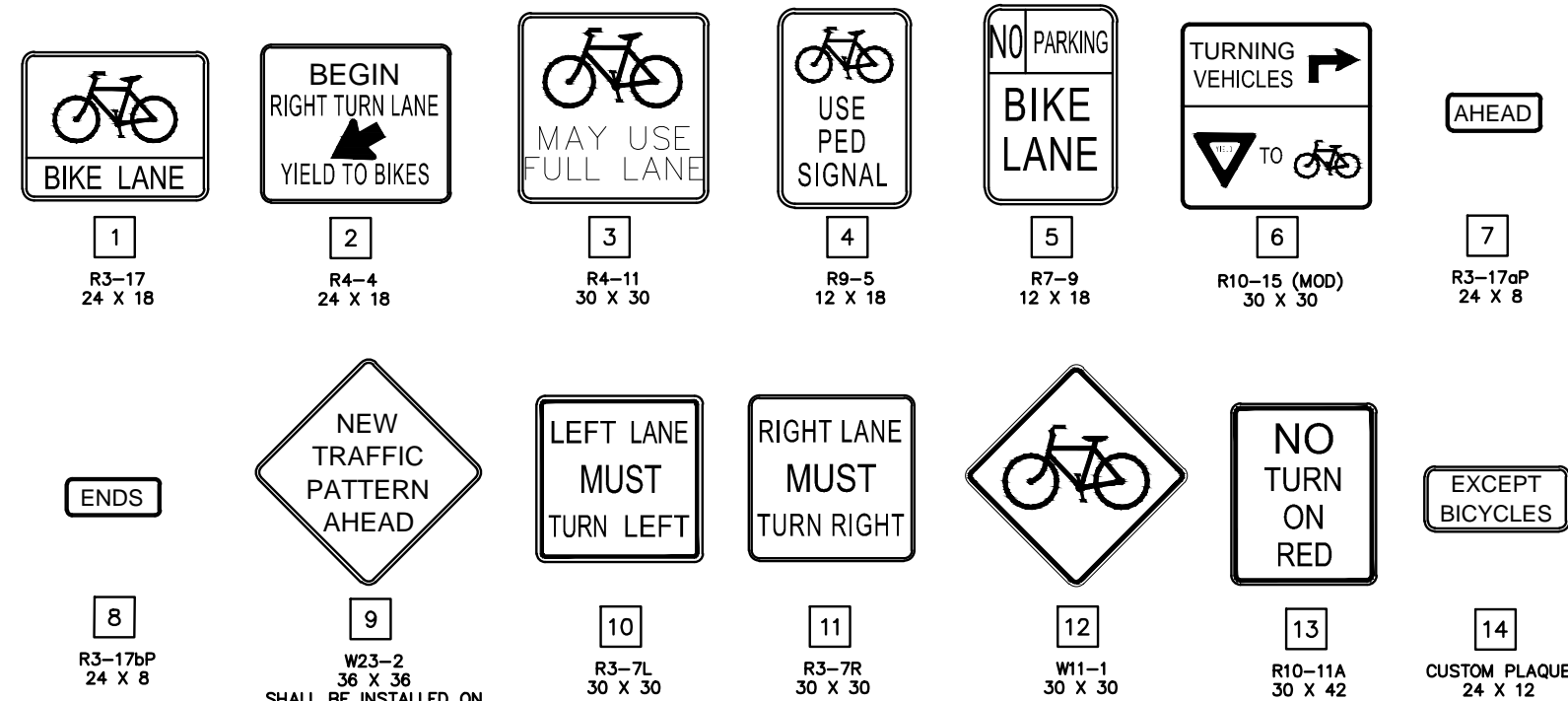
BICYCLE LOOP LAYOUT





(O) WHITE, 24" WIDTH 24" SPACING, 10' LONG  
 (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE  
 (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE  
 (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE  
 (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE  
 (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE  
 (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE  
 (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE  
 (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE  
 (Y) WHITE, YIELD LINE  
 (Z) YELLOW, 6" WIDTH  
 (AA) WHITE, 12" WIDTH  
 (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH  
 (CC) WHITE, WORD MESSAGE "ONLY"  
 (DD) WHITE, WORD MESSAGE "SLOW"

	WHITE, WORD MESSAGE "SCHOOL"
	WHITE, WORD MESSAGE "STOP AHEAD"
	WHITE, WORD MESSAGE (OTHER)
	WHITE, WORD MESSAGE "YIELD"
	WHITE, HOV SYMBOL
	WHITE, SPEED HUMP MARKINGS
	WHITE, BICYCLE LANE SYMBOL AND ARROW
	WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
	WHITE, PRIORITY BICYCLE SHARROW SYMBOL
	WHITE, BICYCLE SHARROW SYMBOL
	WHITE, RAILROAD CROSSING SYMBOL
	WHITE FLEX POST, 20" SPACE
	STANDARD INTERSECTION TREATMENT
	ADVANCED INTERSECTION TREATMENT
	POST MOUNTED SIGN





MATCH LINE V

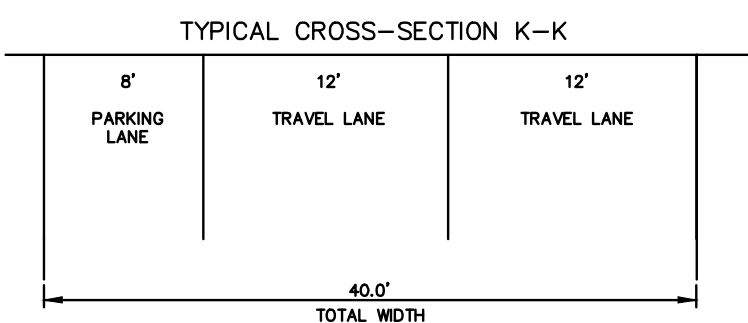
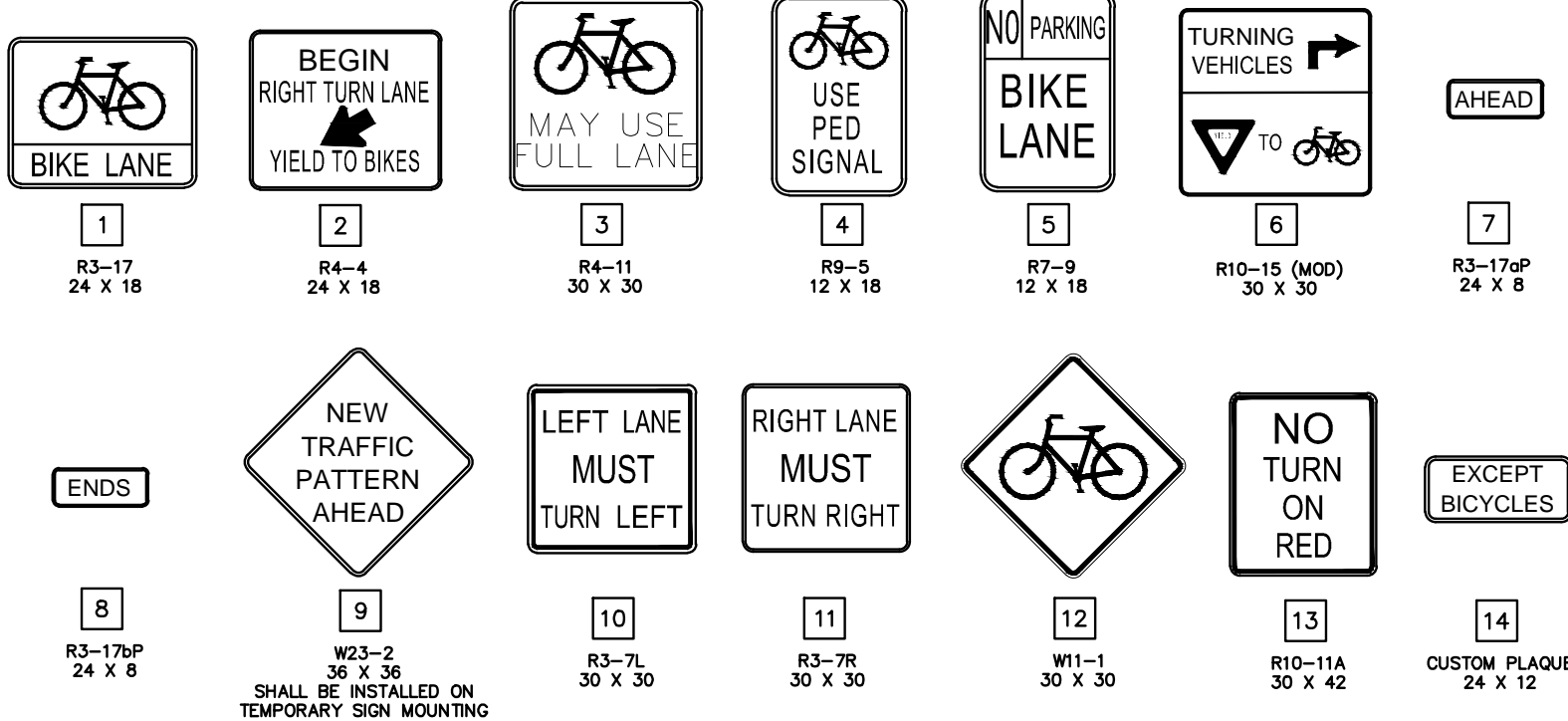


PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (Y) WHITE, YIELD LINE
- (Z) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (K) POST MOUNTED SIGN





MATCH LINE BB

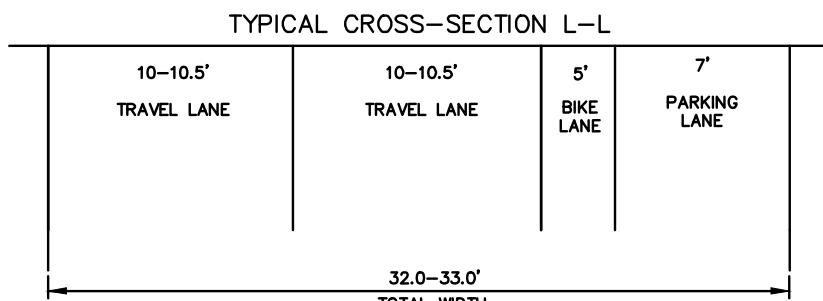
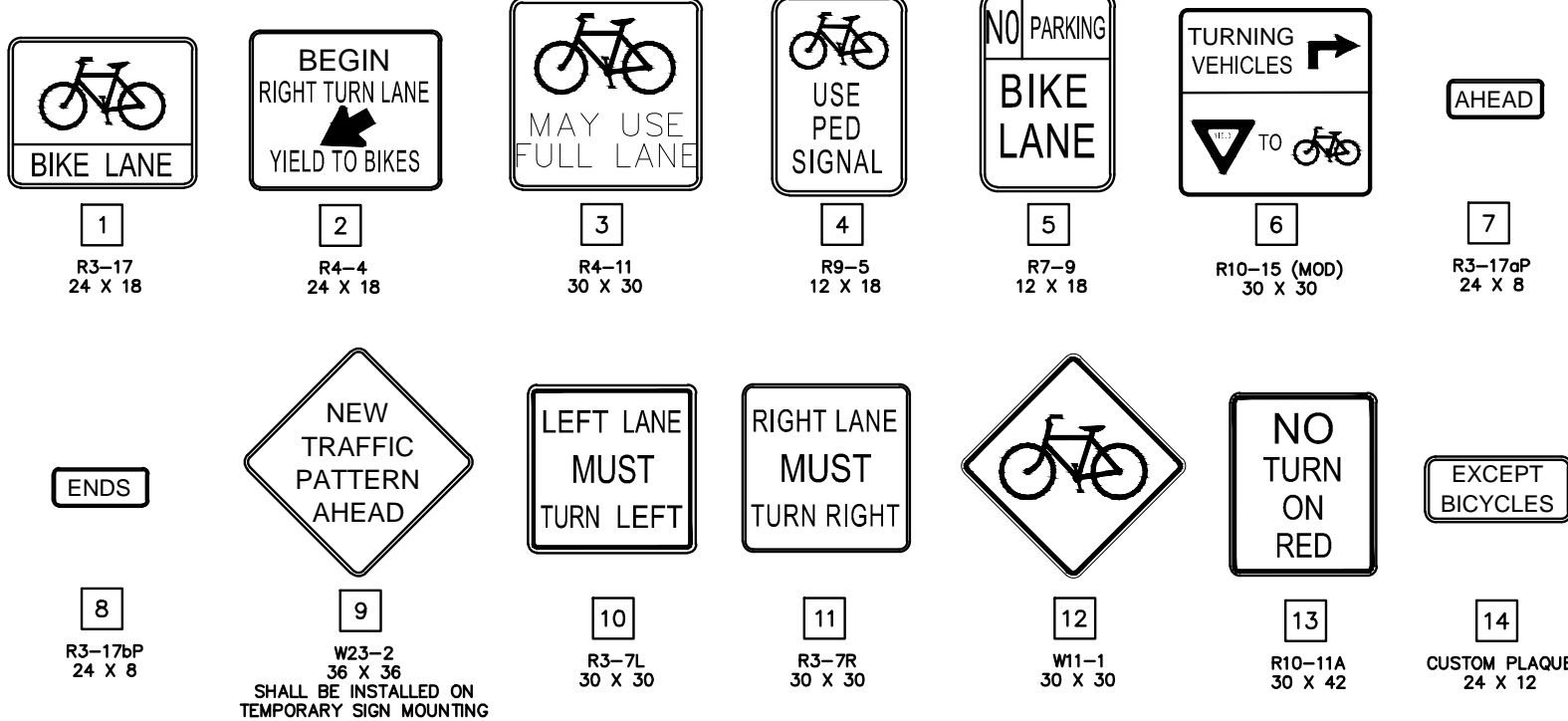


PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (1) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (Y) WHITE, YIELD LINE
- (Z) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (3) POST MOUNTED SIGN



MATCH LINE AA (SHEET 22)

KHA PROJECT 116057099		DATE 02/24/16		SCALE AS SHOWN		DESIGNED BY MMO		DRAWN BY MMO		CHECKED BY KDW					
BICYCLE ROUTE PILOT LOOP DESIGN PLANS PREPARED FOR CITY OF NORFOLK		BICYCLE LOOP LAYOUT		KIMLEY»HORN		© 2015 KIMLEY-HORN AND ASSOCIATES, INC. 4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462 PHONE: 757-213-8600 FAX: 757-213-8601 WWW.KIMLEY-HORN.COM		COMMONWEALTH OF VIRGINIA KYLE WILLIAMS Lic. No. 048552 2/24/16 PROFESSIONAL ENGINEER		REVISIONS		DATE		BY	



MATCH LINE CC



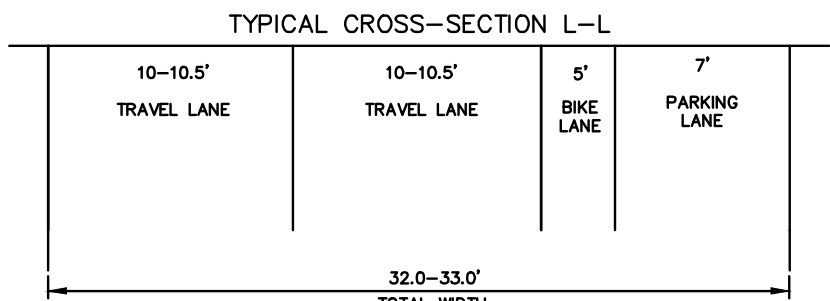
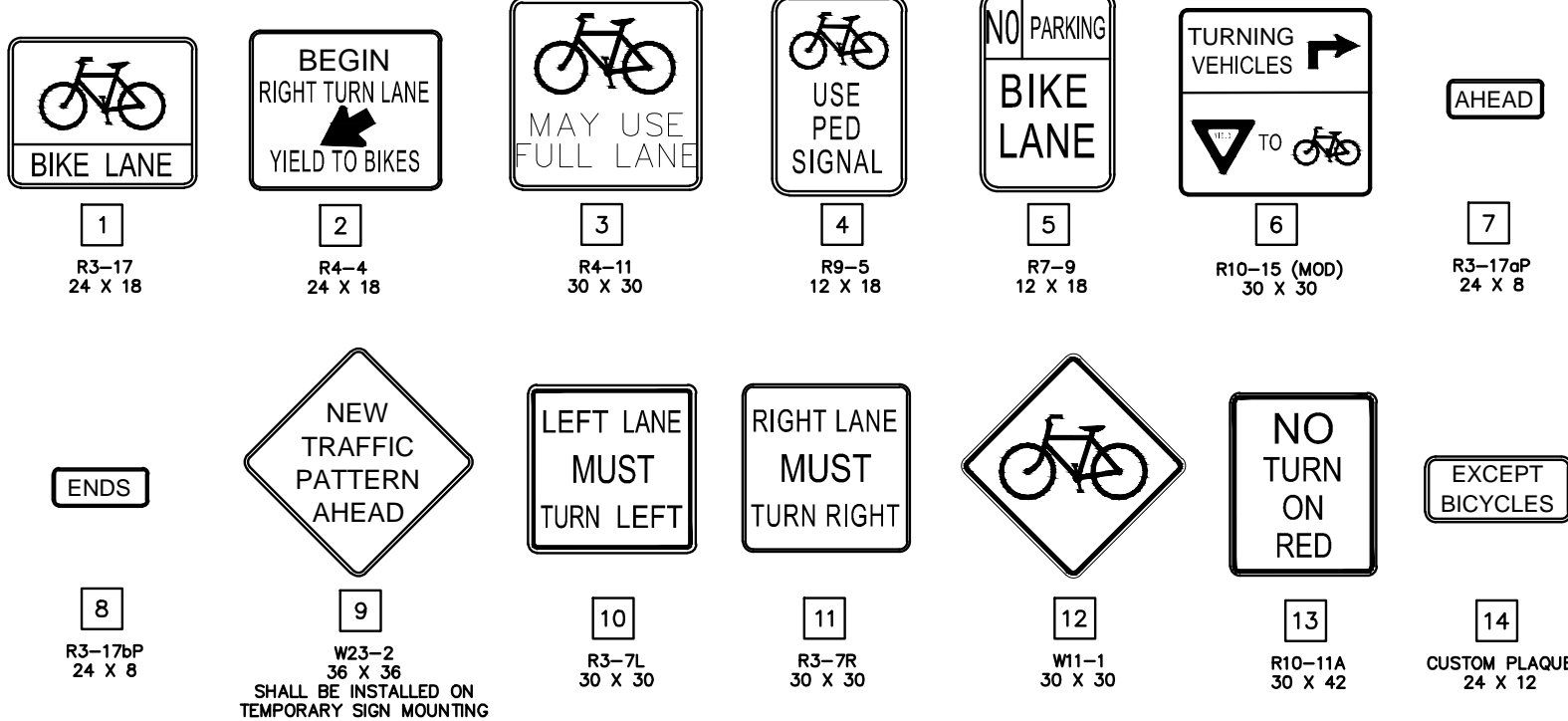
MATCH LINE BB

PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
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- (Z) YELLOW, 6" WIDTH
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- (BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (CC) WHITE, WORD MESSAGE "ONLY"
- (DD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (LL) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (MM) WHITE, BICYCLE SHARROW SYMBOL
- (NN) WHITE, RAILROAD CROSSING SYMBOL
  - WHITE FLEX POST, 20' SPACE
- (1) STANDARD INTERSECTION TREATMENT
- (2) ADVANCED INTERSECTION TREATMENT
- (3) POST MOUNTED SIGN

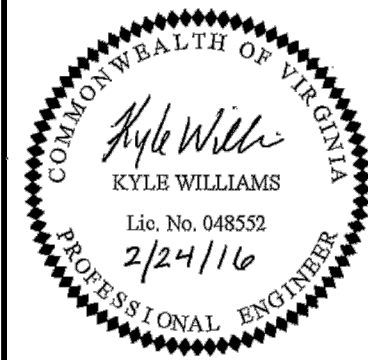


BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK VIRGINIA

BICYCLE LOOP LAYOUT

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW






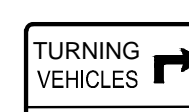










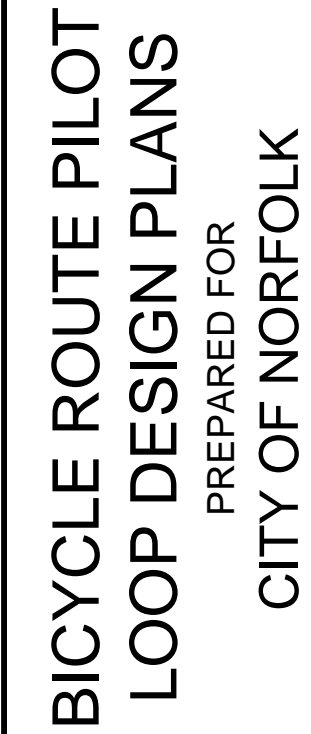
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No.	REVISIONS	DATE	BY





 <p>1</p> <p>R3-17 24 X 18</p>	 <p>2</p> <p>R4-4 24 X 18</p>	 <p>3</p> <p>R4-11 30 X 30</p>	 <p>4</p> <p>R9-5 12 X 18</p>	 <p>5</p> <p>R7-9 12 X 18</p>	 <p>6</p> <p>R10-15 (MOD) 30 X 30</p>	 <p>7</p> <p>R3-17P 24 X 8</p>
 <p>8</p> <p>R3-17P 24 X 8</p>	 <p>9</p> <p>W23-2 36 X 36</p> <p>SHALL BE INSTALLED ON TEMPORARY SIGN MOUNTING</p>	 <p>10</p> <p>R3-7L 30 X 30</p>	 <p>11</p> <p>R3-7R 30 X 30</p>	 <p>12</p> <p>W11-1 30 X 30</p>	 <p>13</p> <p>R10-11A 30 X 42</p>	 <p>14</p> <p>CUSTOM PLAQUE 24 X 12</p>



COMMONWEALTH OF VIRGINIA  
*Kyle Williams*  
 KYLE WILLIAMS  
 Lic. No. 048552  
 2/24/16  
 PROFESSIONAL ENGINEER

**Kimley»»Horn**

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[illegible]



MATCH LINE EE

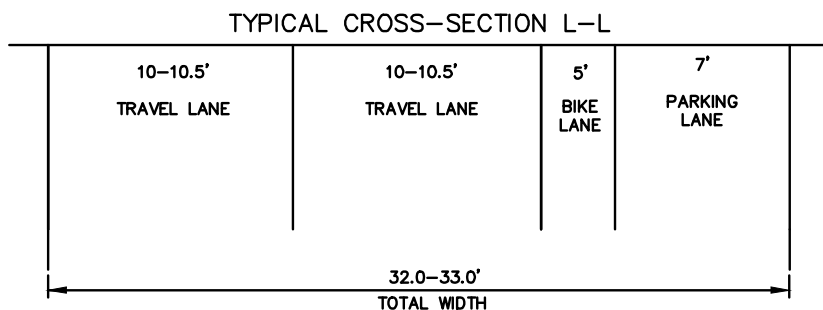
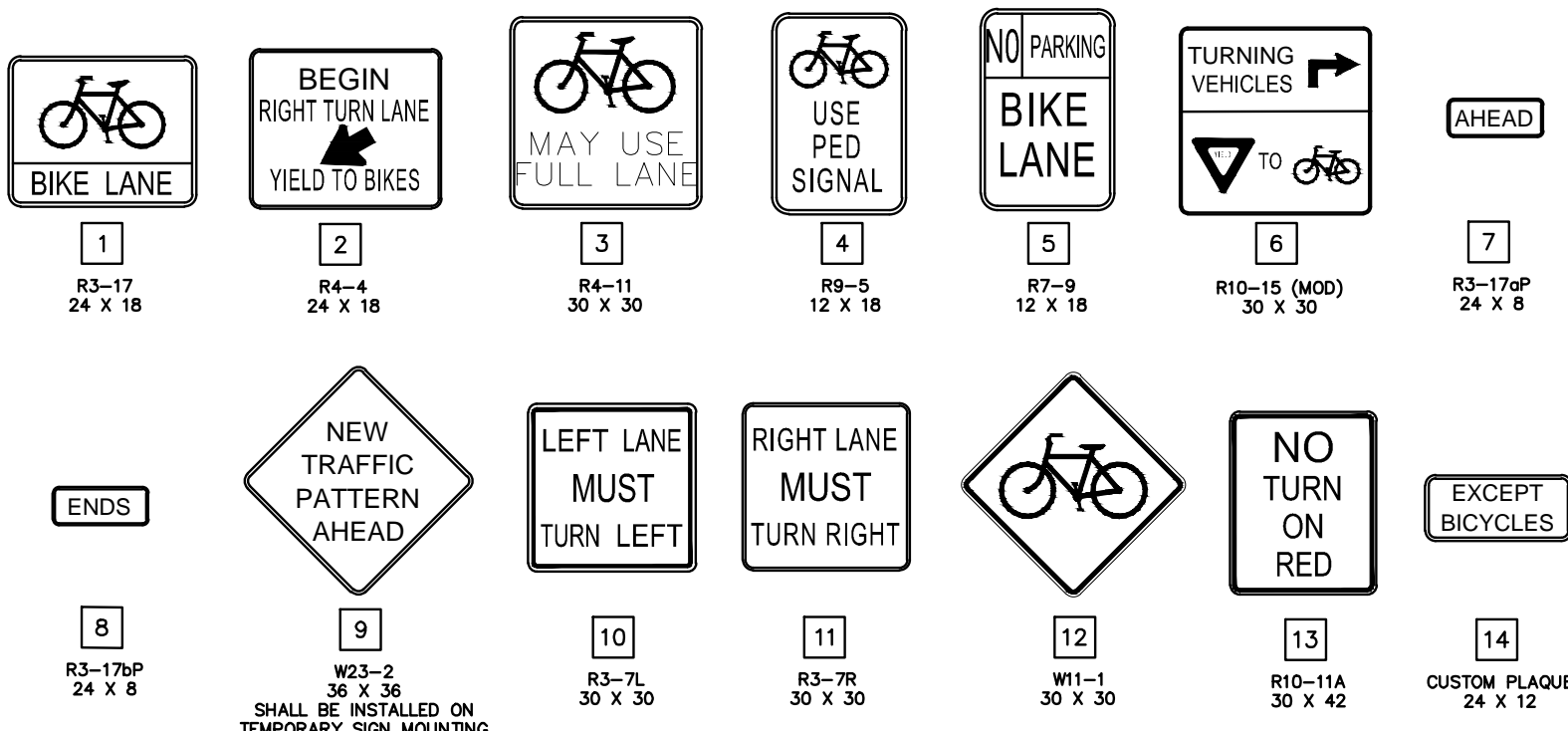


PAVEMENT MARKING LEGEND:

- (A) WHITE, 4" WIDTH
- (B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (D) WHITE, 24" WIDTH
- (E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE
- (F) WHITE, 6" WIDTH
- (G) WHITE, 8" WIDTH
- (H) YELLOW, 4" WIDTH
- (I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING
- (J) YELLOW, 24" WIDTH @ 45 DEGREES
- (K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE
- (L) WHITE, ELONGATED ARROW (S)
- (M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE
- (N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING

- (O) WHITE, 24" WIDTH 24" SPACING, 10' LONG
- (P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE
- (Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE
- (R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE
- (S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE
- (T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE
- (U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE
- (V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE
- (W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE
- (X) WHITE, YIELD LINE
- (Y) YELLOW, 6" WIDTH
- (AA) WHITE, 12" WIDTH
- (AB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH
- (AC) WHITE, WORD MESSAGE "ONLY"
- (AD) WHITE, WORD MESSAGE "SLOW"

- (EE) WHITE, WORD MESSAGE "SCHOOL"
- (FF) WHITE, WORD MESSAGE "STOP AHEAD"
- (GG) WHITE, WORD MESSAGE (OTHER)
- (HH) WHITE, WORD MESSAGE "YIELD"
- (II) WHITE, HOV SYMBOL
- (JJ) WHITE, SPEED HUMP MARKINGS
- (KK) WHITE, BICYCLE LANE SYMBOL AND ARROW
- (LL) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
- (MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
- (NN) WHITE, BICYCLE SHARROW SYMBOL
- (RR) WHITE, RAILROAD CROSSING SYMBOL
- (1) WHITE FLEX POST, 20" SPACE
- (2) STANDARD INTERSECTION TREATMENT
- (3) ADVANCED INTERSECTION TREATMENT
- (4) POST MOUNTED SIGN



NOTE: ALL EXISTING "NO STOPPING" SIGNS TO BE REMOVED.

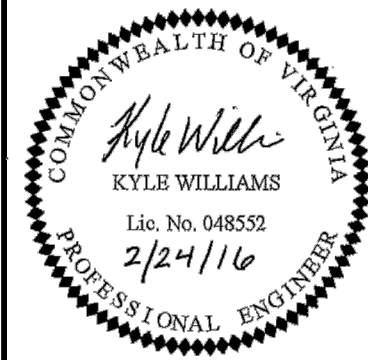
BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS  
PREPARED FOR  
CITY OF NORFOLK

NORFOLK

VIRGINIA

BICYCLE LOOP LAYOUT

KHA PROJECT	116057099
DATE	02/24/16
SCALE	AS SHOWN
DESIGNED BY	MMO
DRAWN BY	MMO
CHECKED BY	KDW



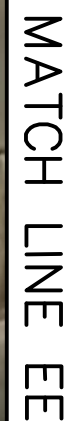
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REVISIONS

No.	DATE	BY

MATCH LINE DD (SHEET 23)





 <p>1</p> <p>R3-17 24 X 18</p>	 <p>2</p> <p>R4-4 24 X 18</p>	 <p>3</p> <p>R4-11 30 X 30</p>	 <p>4</p> <p>R9-5 12 X 18</p>	 <p>5</p> <p>R7-9 12 X 18</p>	 <p>6</p> <p>R10-15 (MOD) 30 X 30</p>	 <p>7</p> <p>R3-17SP 24 X 8</p>
 <p>8</p> <p>R3-17BP 24 X 8</p>	 <p>9</p> <p>W23-2 36 X 48 SHALL BE INSTALLED ON TEMPORARY SIGN MOUNTING</p>	 <p>10</p> <p>R3-7L 30 X 30</p>	 <p>11</p> <p>R3-7R 30 X 30</p>	 <p>12</p> <p>W11-1 30 X 30</p>	 <p>13</p> <p>R10-11A 30 X 42</p>	 <p>14</p> <p>CUSTOM PLAQUE 24 X 12</p>



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## BICYCLE LOOP LAYOUT

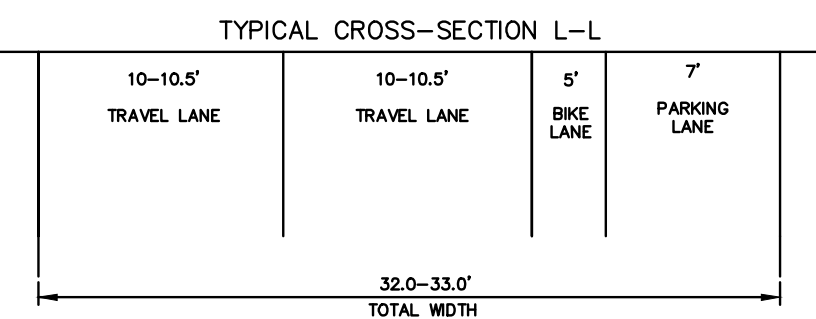
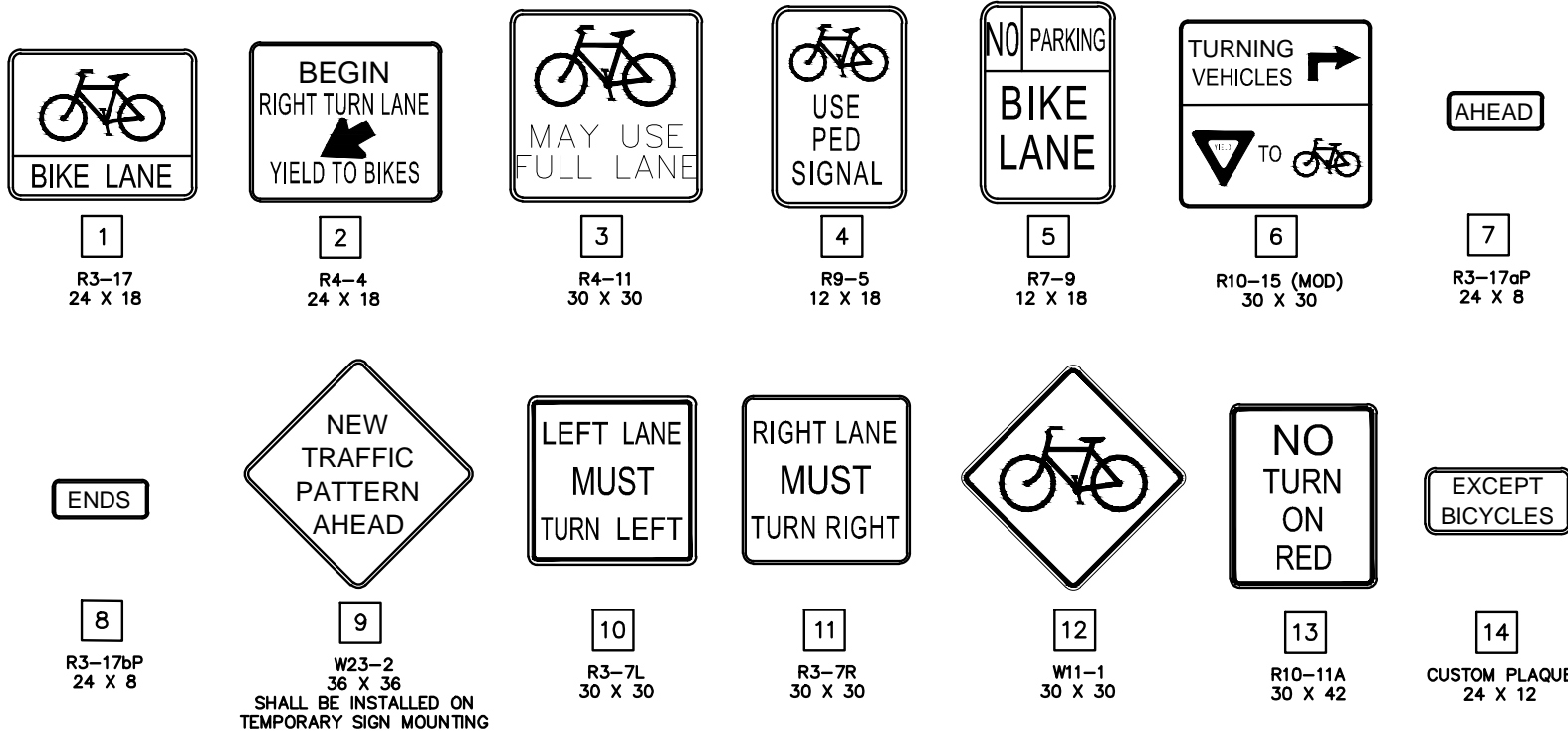
**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS**  
PREPARED FOR  
**CITY OF NORFOLK**

NORFOLK

SHEET NUMBER  
30



PAVEMENT MARKING LEGEND:		
(A) WHITE, 4" WIDTH	(O) WHITE, 24" WIDTH 24" SPACING, 10' LONG	(EE) WHITE, WORD MESSAGE "SCHOOL"
(B) WHITE, 4" WIDTH, 10' LONG, 30' SPACE	(P) WHITE, 12" WIDTH, 10' LONG, 30' SPACE	(FF) WHITE, WORD MESSAGE "STOP AHEAD"
(C) WHITE, 4" WIDTH, 2' LONG, 4' SPACE	(Q) WHITE, 6" WIDTH, 10' LONG, 30' SPACE	(GG) WHITE, WORD MESSAGE (OTHER)
(D) WHITE, 24" WIDTH	(R) WHITE, 4" WIDTH, 3' LONG, 9' SPACE	(HH) WHITE, WORD MESSAGE "YIELD"
(E) WHITE, 6" WIDTH @ 45 DEGREES, 10' SPACE	(S) WHITE, 6" WIDTH, 3' LONG, 9' SPACE	(II) WHITE, HOV SYMBOL
(F) WHITE, 6" WIDTH	(T) WHITE, 8" WIDTH, 3' LONG, 9' SPACE	(JJ) WHITE, SPEED HUMP MARKINGS
(G) WHITE, 8" WIDTH	(U) WHITE, 12" WIDTH, 3' LONG, 9' SPACE	(KK) WHITE, BICYCLE LANE SYMBOL AND ARROW WITH GREEN FILL
(H) YELLOW, 4" WIDTH	(V) WHITE, 6" WIDTH, 2' LONG, 4' SPACE	(LL) WHITE, BICYCLE LANE SYMBOL AND ARROW
(I) YELLOW, DOUBLE LINE: 4" WIDTH & 4" WIDTH @ 4" SPACING	(W) YELLOW, 4" WIDTH, 10' LONG, 30' SPACE	(MM) WHITE, PRIORITY BICYCLE SHARROW SYMBOL
(J) YELLOW, 24" WIDTH @ 45 DEGREES	(Y) WHITE, YIELD LINE	(NN) WHITE, BICYCLE SHARROW SYMBOL
(K) YELLOW, DOUBLE LINE: 4" WIDTH, 2' LONG, 4' SPACE	(Z) YELLOW, 6" WIDTH	(RR) WHITE, RAILROAD CROSSING SYMBOL
(L) WHITE, ELONGATED ARROW (S)	(AA) WHITE, 12" WIDTH	• WHITE FLEX POST, 20' SPACE
(M) YELLOW, 4" WIDTH, 2' LONG, 4' SPACE	(BB) WHITE, QUADRUPLE LINE: (4) 6" WIDTH	(1) STANDARD INTERSECTION TREATMENT
(N) YELLOW, DOUBLE LINE: 4" WIDTH SOLID & 4" WIDTH, 10" LONG, 30' SPACE @ 4" SPACING	(CC) WHITE, WORD MESSAGE "ONLY"	(2) ADVANCED INTERSECTION TREATMENT
	(DD) WHITE, WORD MESSAGE "SLOW"	• POST MOUNTED SIGN

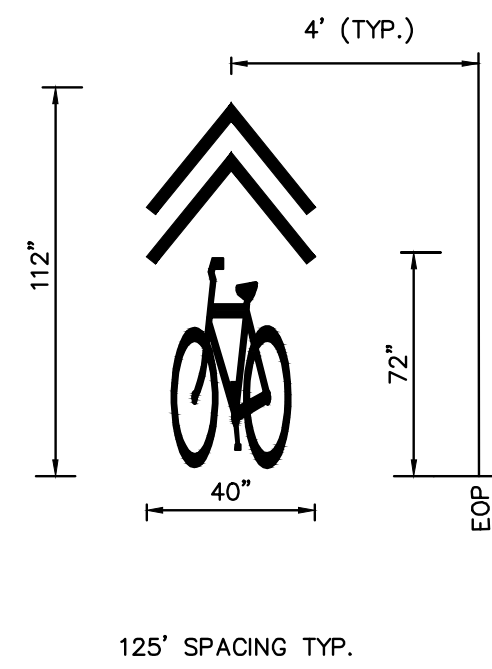


NOTE: ALL EXISTING "NO STOPPING" SIGNS TO BE REMOVED.

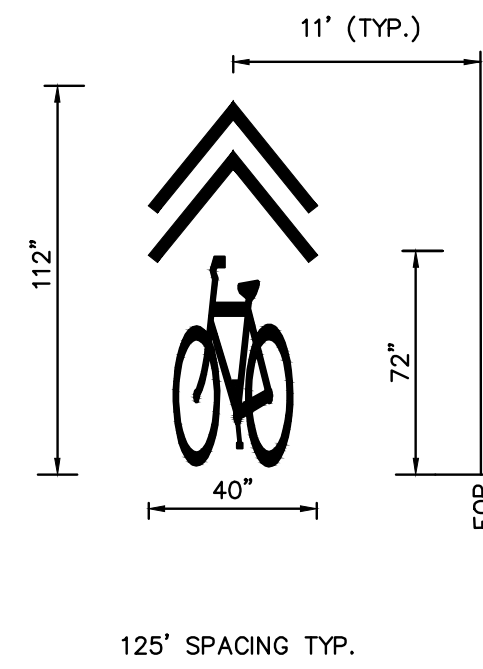


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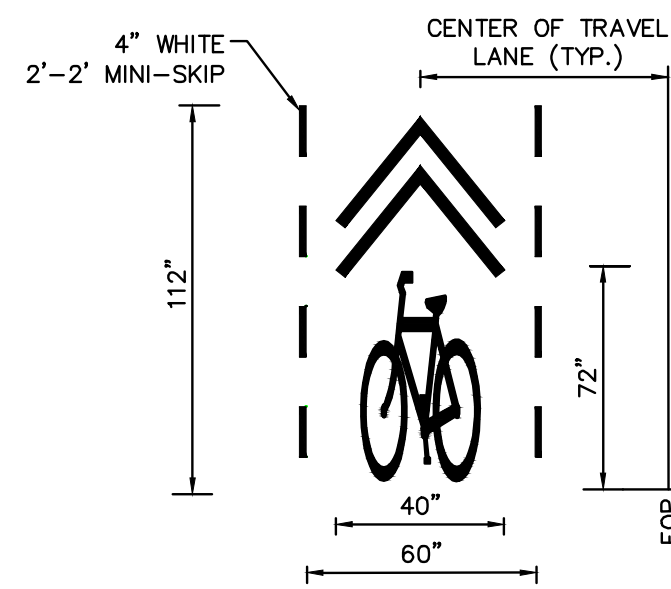
## SHARED LANE MARKING (SLM) DETAIL



## SHARED LANE MARKING DETAIL WITH ON-STREET PARKING

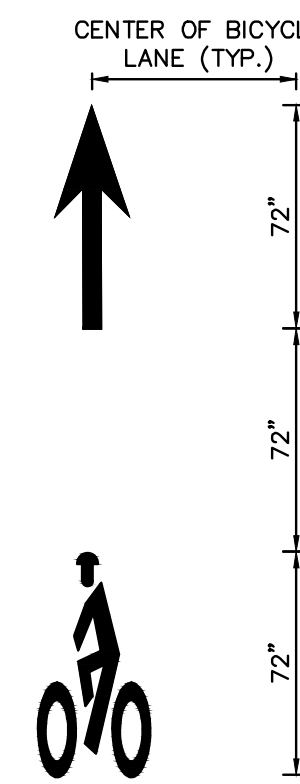


## PRIORITY SHARED LANE MARKING DETAIL

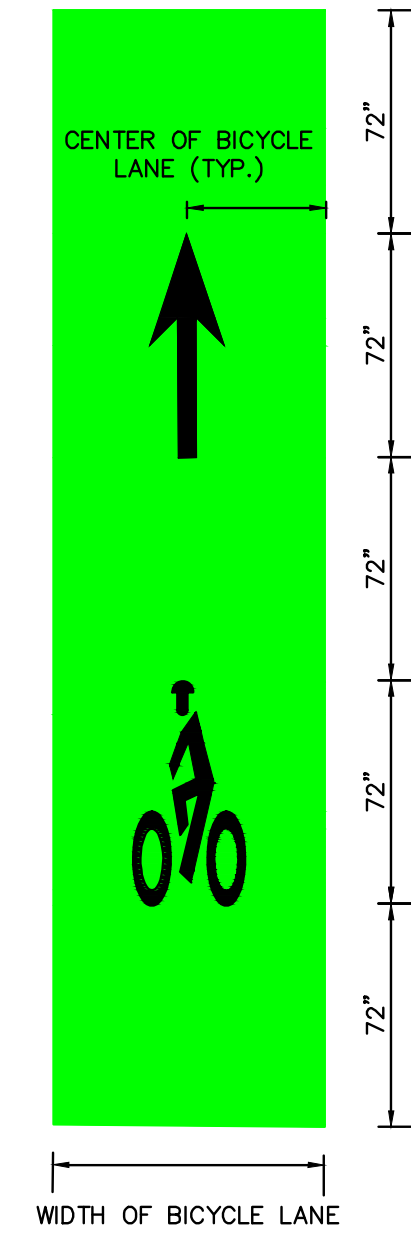


## BICYCLE LANE SYMBOL AND ARROW DETAIL

SOURCE: 2009 MUTCD FIGURE 9C-3



BICYCLE LANE SYMBOL AND ARROW  
WITH GREEN FILL DETAIL



TYP. BICYCLE LANE SYMBOL SPACING

BLOCK LENGTH 500' OR LESS

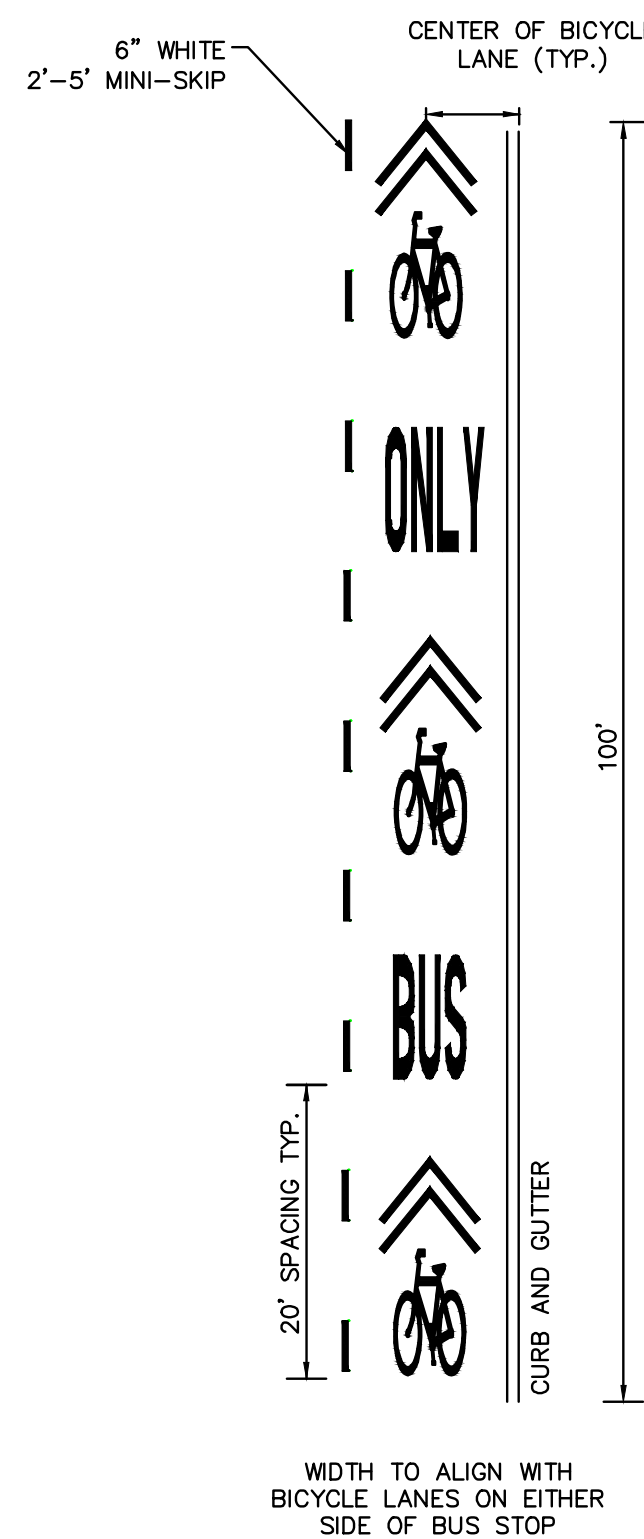
1 SYMBOL LOCATED 6' FROM  
CROSSWALK, EXTENSION OF SIDEWALK,  
OR CURB RETURN AFTER INTERSECTION  
OR BREAK IN BIKE LANE

BLOCK LENGTH 501' OR MORE

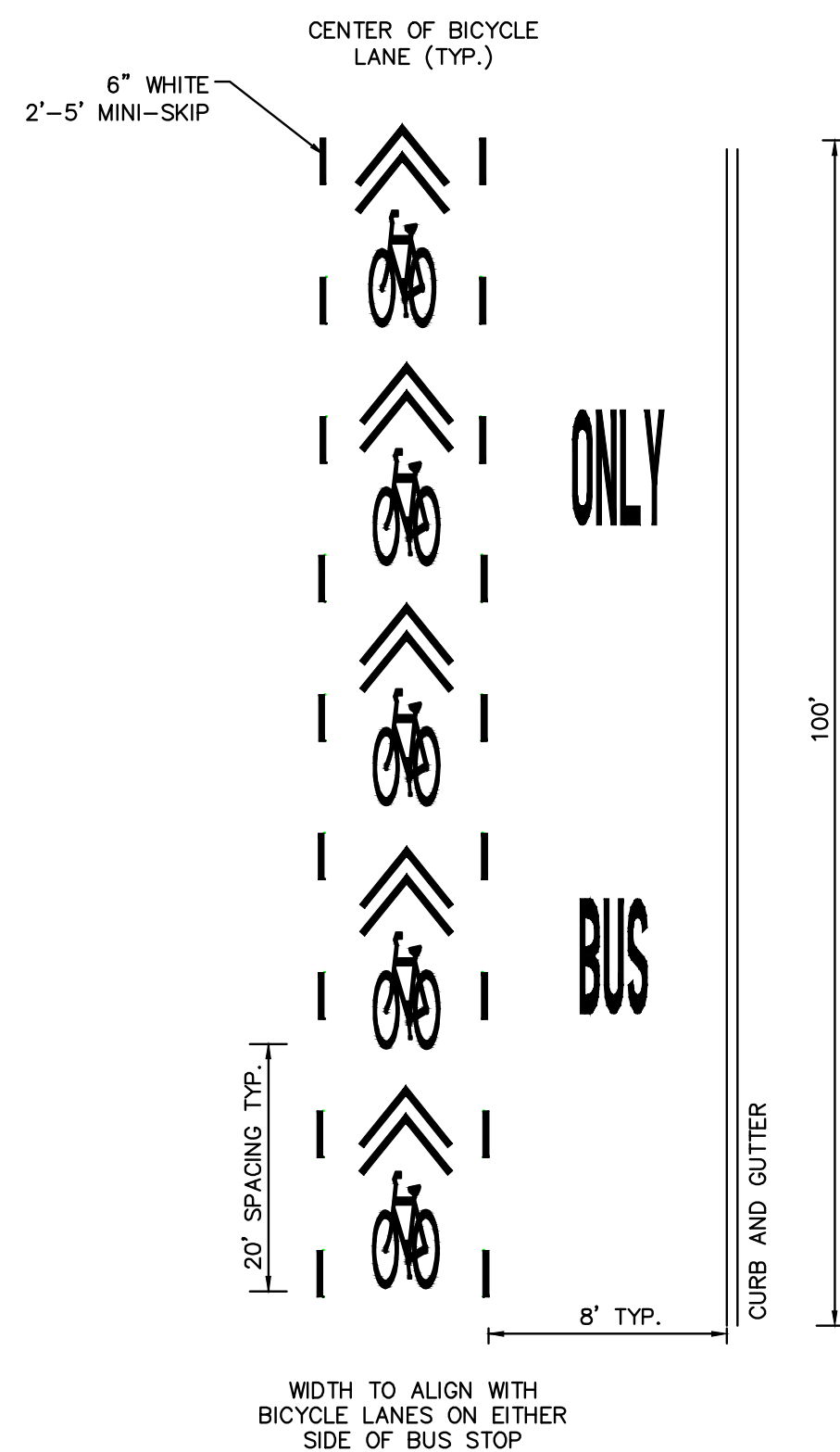
1 SYMBOL LOCATED 6' FROM  
CROSSWALK, EXTENSION OF SIDEWALK,  
OR CURB RETURN AFTER INTERSECTION  
OR BREAK IN BIKE LANE

1 SYMBOL LOCATED AT MIDPOINT OF BLOCK

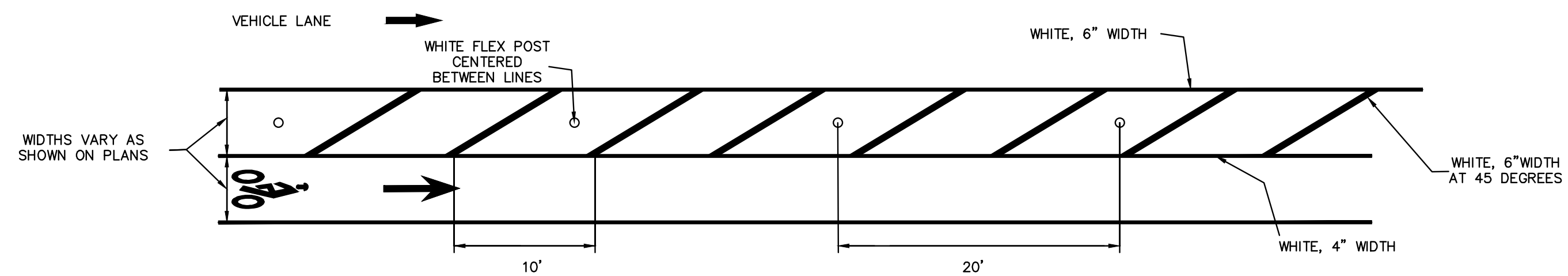
### BUS STOP DETAIL



BUS STOP WITH ADJACENT  
ON-STREET PARKING DETAIL



BUFFERED BIKE LANE  
 WITH FLEX POST DETAIL



**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS**  
PREPARED FOR  
**CITY OF NORFOLK**

VORFOLK

## DETAILS

KHA PROJECT	DATE
116057099	02/24/16
SCALE AS SHOWN	
DESIGNED BY	MMC
DRAWN BY	MMC
CHECKED BY	KDW

COMMONWEALTH OF VIRGINIA  
*Kyle Williams*  
 KYLE WILLIAMS  
 Lic. No. 048552  
 2/24/16  
 PROFESSIONAL ENGINEER

**Kimley»»Horn**

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No.	
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DATE	BY
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TYP. INTERSECTION TREATMENT SHARED LAND MARKING (SLM) SPACING

- |                               |  |
|-------------------------------|--|
| INTERSECTION SPAN 75' OR LESS | <p>1 SLM LOCATED 10' FROM CROSSWALK OR EXTENSION OF SIDEWALK</p> <p>1 SLM AT THE MIDPOINT BETWEEN THE FIRST SLM AND THE FAR SIDE OF THE INTERSECTION</p>   |
| INTERSECTION SPAN 76' OR MORE | <p>1 SLM LOCATED 10' FROM CROSSWALK OR EXTENSION OF SIDEWALK</p> <p>1 SLM LOCATED AT MIDPOINT OF INTERSECTION</p> <p>1 SLM LOCATED 10' FROM CROSSWALK OR EXTENSION OF SIDEWALK AT FAR SIDE OF INTERSECTION</p> |

**BICYCLE ROUTE PILOT  
LOOP DESIGN PLANS**

PREPARED FOR  
**CITY OF NORFOLK**

NORFOLK VIRGINIA


**DETAILS**

KHA PROJECT 116057099	DATE 02/24/16	SCALE AS SHOWN
		DESIGNED BY M/MO
		DRAWN BY M/MO
		CHECKED BY KDW

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**COMMONWEALTH OF VIRGINIA**



**KYLE WILLIAMS**  
Lic. No. 048552  
2/24/16  
**PROFESSIONAL ENGINEER**

**Kimley»Horn**

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No. \_\_\_\_\_

DATE \_\_\_\_\_

REVISIONS \_\_\_\_\_

BY \_\_\_\_\_



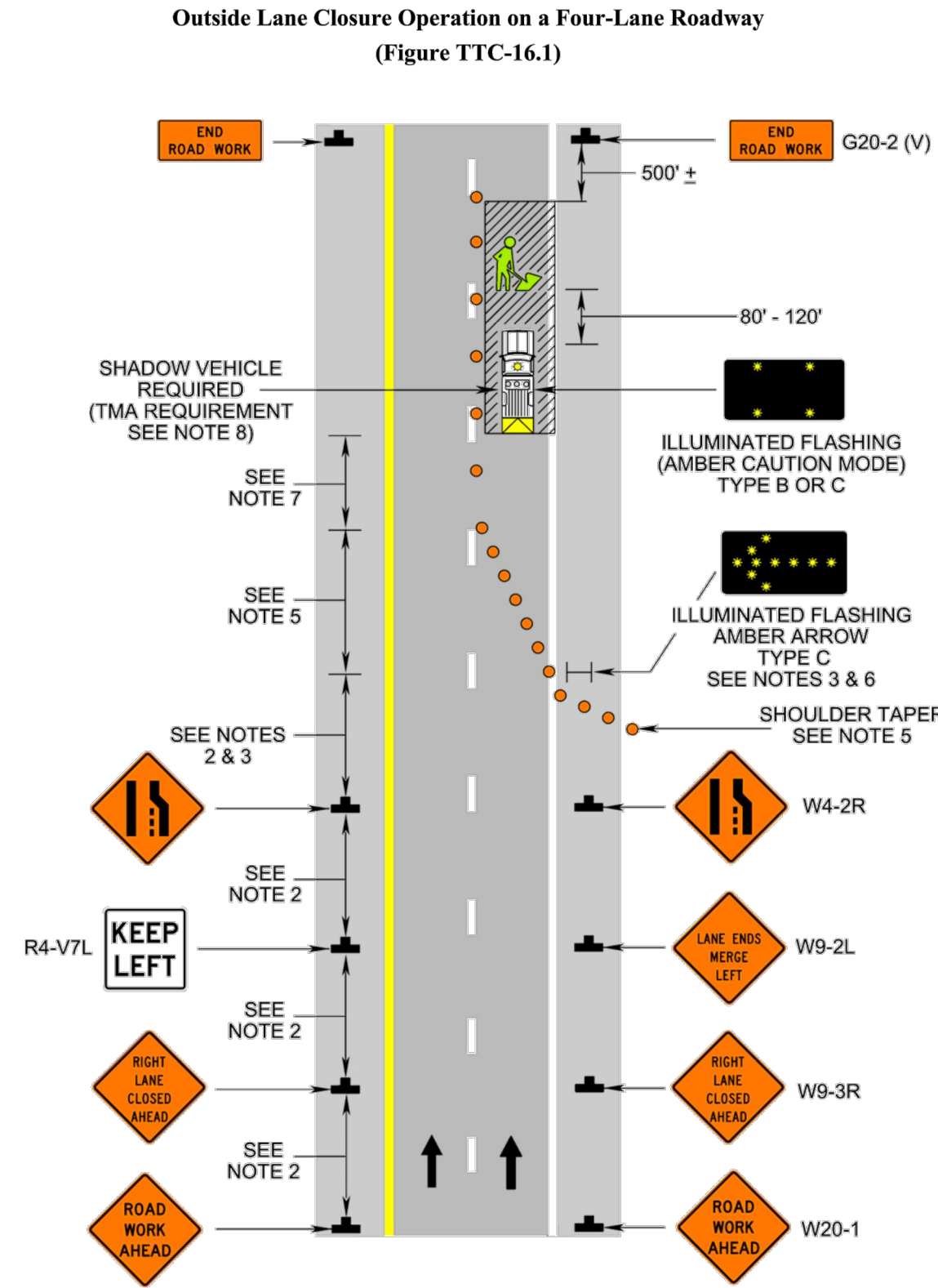




Plotted By: Clevin, Megan - Sheet Set: KHA - Layout: 33 DETAILS - February 24, 2016 08:43:05am K:\VAB-TP10\116057099-norfolk bike pilot loop\CADD\plan sheets\33 MOT DETAILS.dwg  
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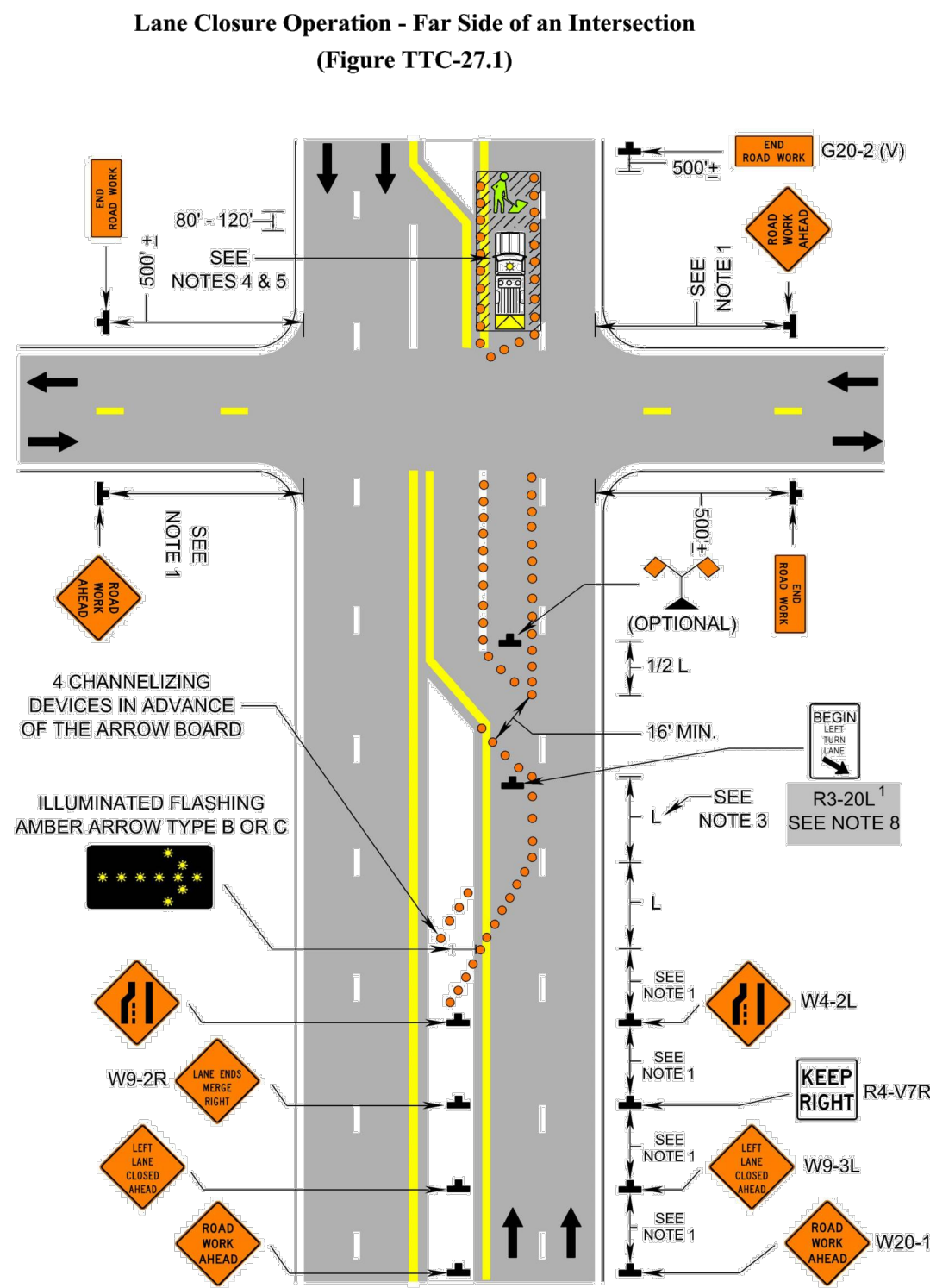
April 2015

Page 6H-39



April 2015

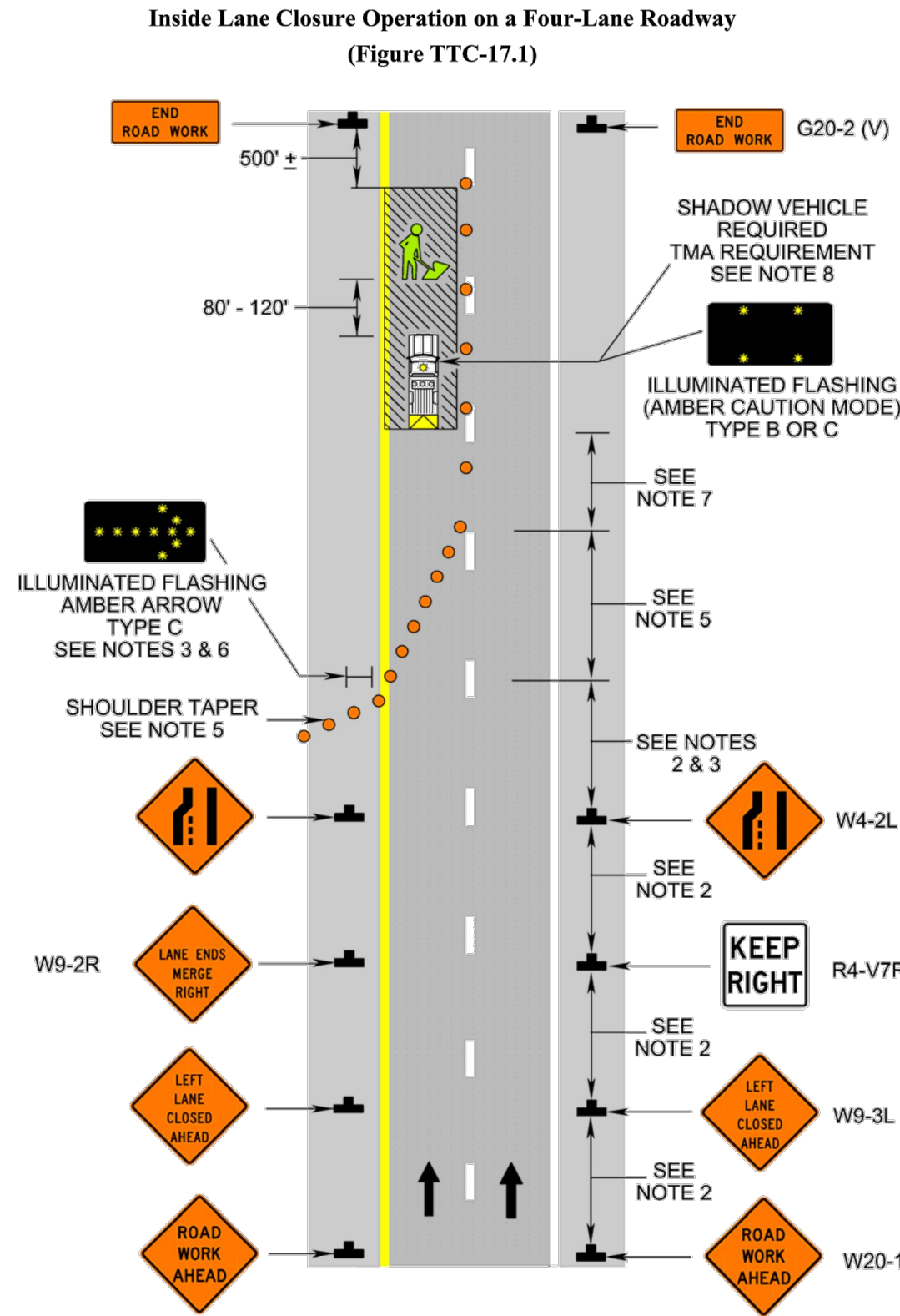
Page 6H-61



1: Revision 1 - 4/1/2015

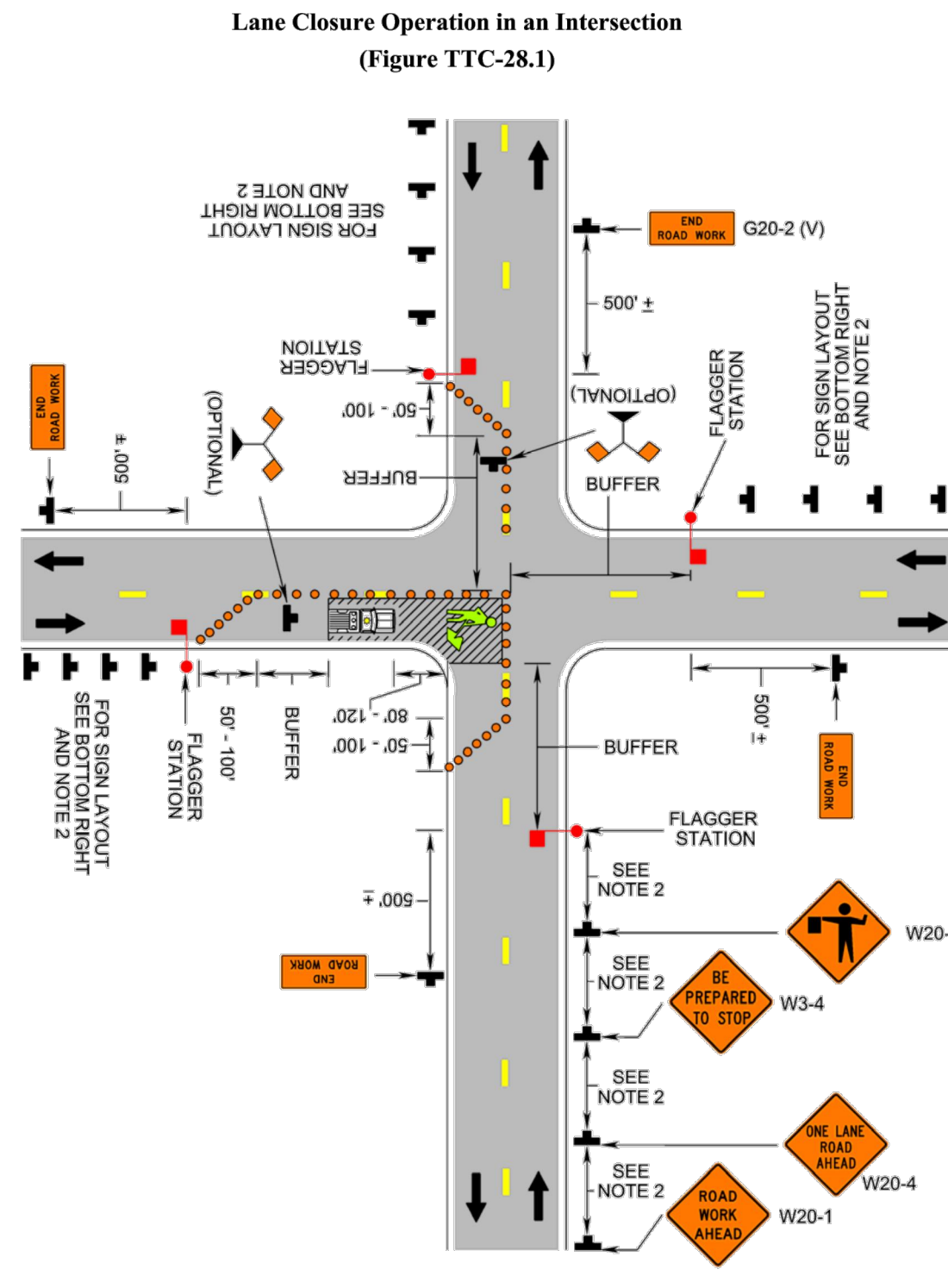
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Page 6H-41



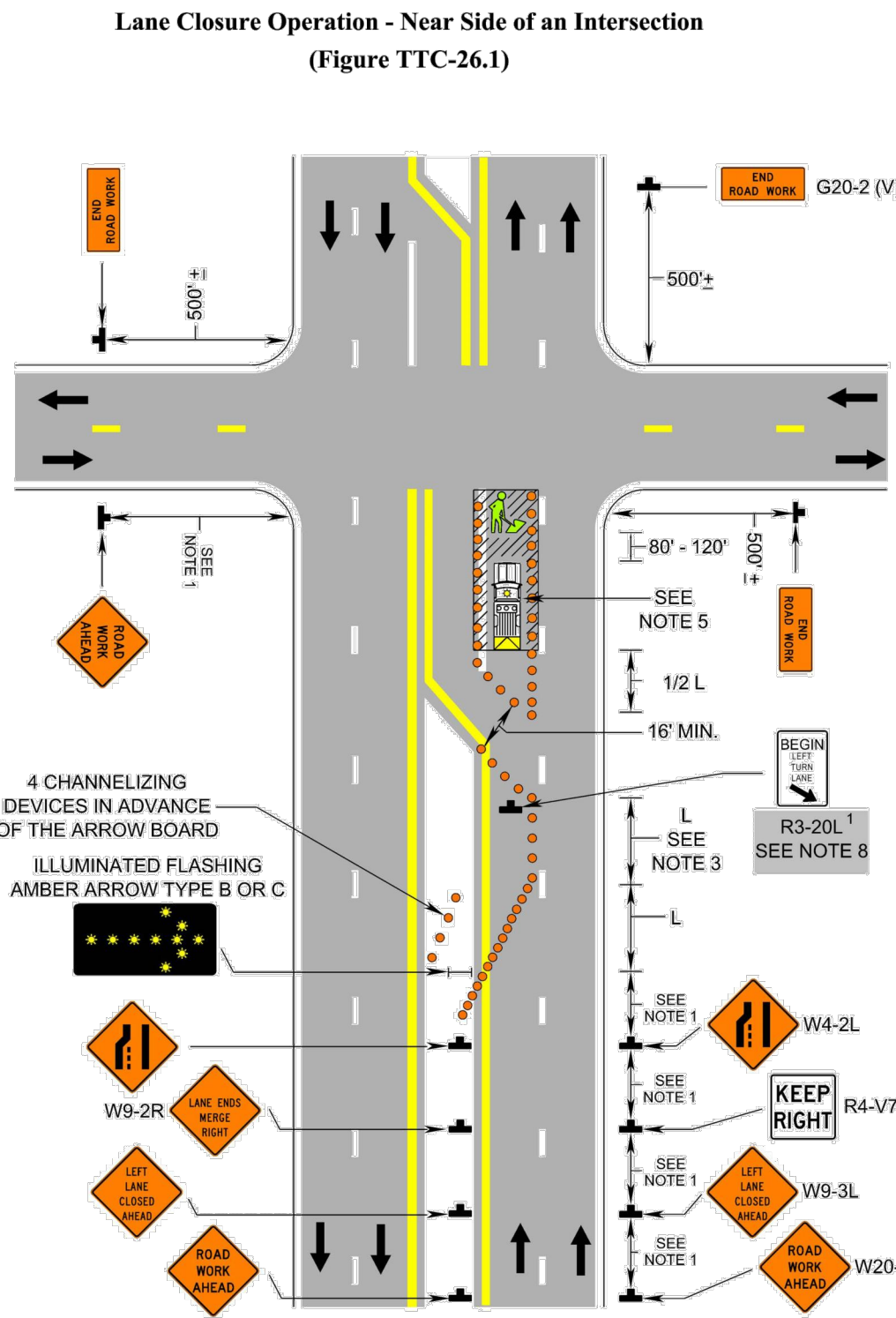
April 2015

Page 6H-63



April 2015

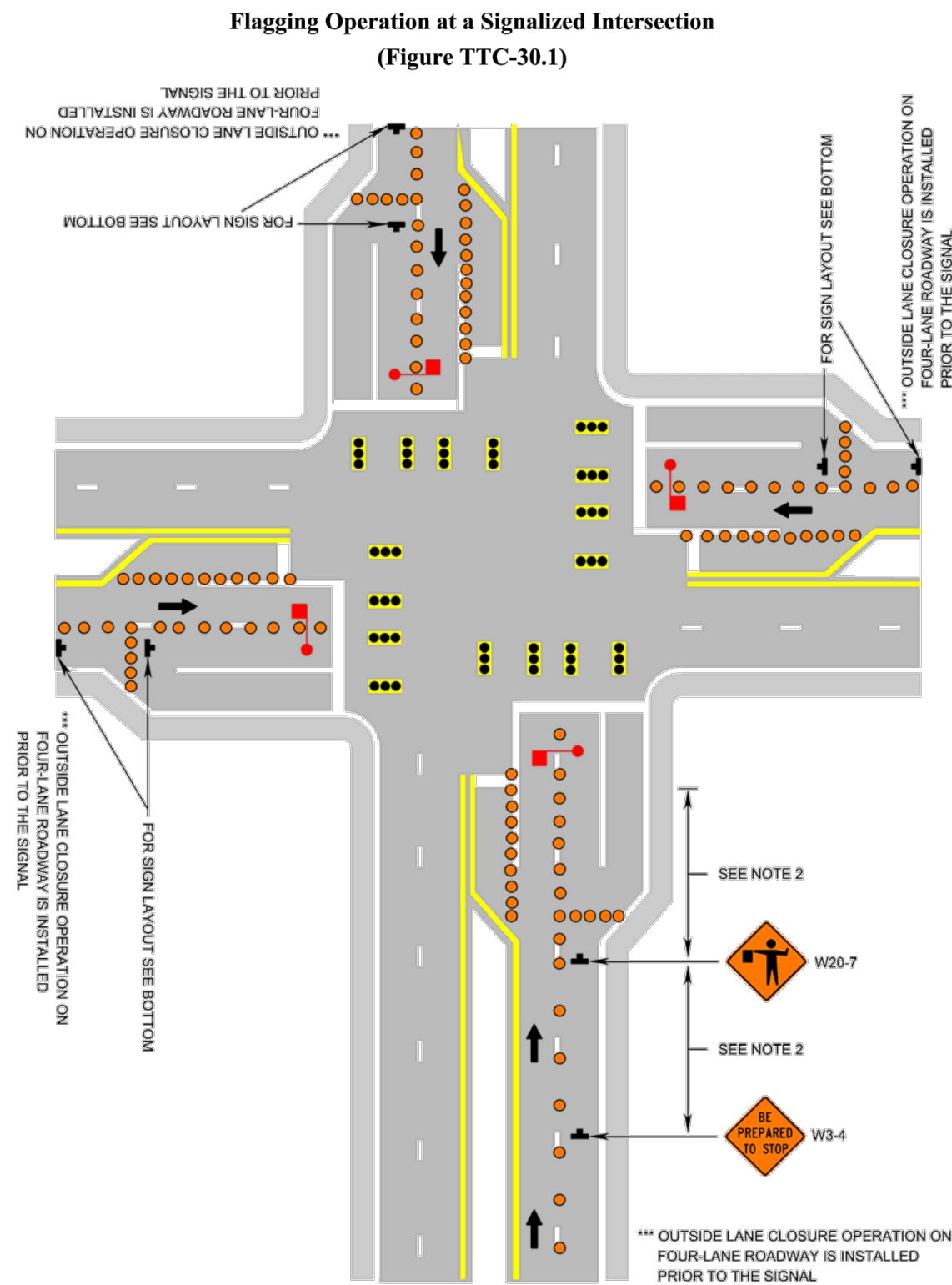
Page 6H-59



1: Revision 1 - 4/1/2015

April 2015

Page 6H-67



KHA PROJECT 116057099		DATE 02/24/16	SCALE AS SHOWN	DESIGNED BY MMO	CHECKED BY KDW
BICYCLE ROUTE PILOT LOOP DESIGN PLANS PREPARED FOR CITY OF NORFOLK		MAINTENANCE OF TRAFFIC DETAILS		NORFOLK VIRGINIA	
SHEET NUMBER 35		Kimley»Horn		© 2015 KIMLEY-HORN AND ASSOCIATES, INC. 4500 MAIN STREET, SUITE 500, VIRGINIA BEACH, VA 23462 PHONE: 757-213-8600 FAX: 757-213-8601 WWW.KIMLEY-HORN.COM	
No.		REVISIONS		DATE BY	